

FAAM facility for airborne atmospheric measurements

FLIGHT FOLDER



Flight No. B470
 Date: 26 July 2009
 Take Off: 09:22:00Z Basel
 Landing: 14:22:22Z Basel
 Flight Time: 5h 00m 22s

Campaign: CAVIAR
 Operating Area: Jungfrauoch

POB	Position	Name	Institute	Logs y/n
1	Captain	Alan Roberts	Directflight	
2	Co-pilot	Luc Lathouwers	Directflight	
3	CCM	Gaynor Ottaway	Directflight	
4	Flight Manager	Alan Woolley	FAAM	
5	Mission Scientist 1	Chawn Harlow	Met Office	
6	Core Chem / NOx	Doug Anderson	FAAM	
7	Cloud Physics	Phil Rosenberg	FAAM	
8	AVAPS	Kate Turnbull	FAAM	
9	SWS	Debbie O'Sullivan	Met Office	
10	ARIES/FWVS	Dave Tiddeman	Met Office	
11	MARSS	James Bowles	Met Office	
12	TAFTS	Ralph Beeby	Imperial College	Y
13	Mission Scientist 2	Stuart Newman	Met Office	
14				
15				
16				
17				
18				
19				

Missing Log Sheet	Reason
Pre-flight log	No log available
ViRC chat log	poor comms meant no useful ViRC during CAVIAR
Cloud Physics In Flight	No log available (looking)
Core Chemistry / TDLAS	no In Flight log except in cases of instrument problems
CVI	No log as o operator on CAVIAR
TAFTS	No log taken?

Revision	Date	Author	Comments
r0	03 Nov 2009	Doug Anderson	Initial version missing the above noted logs
r1			

VIDEO RECORDINGS:

The following avi format video recordings should be available at the BADC in core_processed/faam-video :

faam-video-dfc_faam_20090726_r0_b470_123700_1hz.avi

faam-video-ffc_faam_20090726_r0_b470_123654_1hz.avi

faam-video-ffc_faam_20090726_r0_b470_133654_1hz.avi

faam-video-ffc_faam_20090726_r0_b470_092359_1hz.avi

faam-video-ufc_faam_20090726_r0_b470_092403_1hz.avi

faam-video-ffc_faam_20090726_r0_b470_101707_1hz.avi

faam-video-ufc_faam_20090726_r0_b470_101710_1hz.avi

faam-video-ffc_faam_20090726_r0_b470_111707_1hz.avi

faam-video-ufc_faam_20090726_r0_b470_113614_1hz.avi

faam-video-ffc_faam_20090726_r0_b470_113611_1hz.avi

faam-video-ufc_faam_20090726_r0_b470_123657_1hz.avi

faam-video-ffc_faam_20090726_r0_b470_123611_1hz.avi

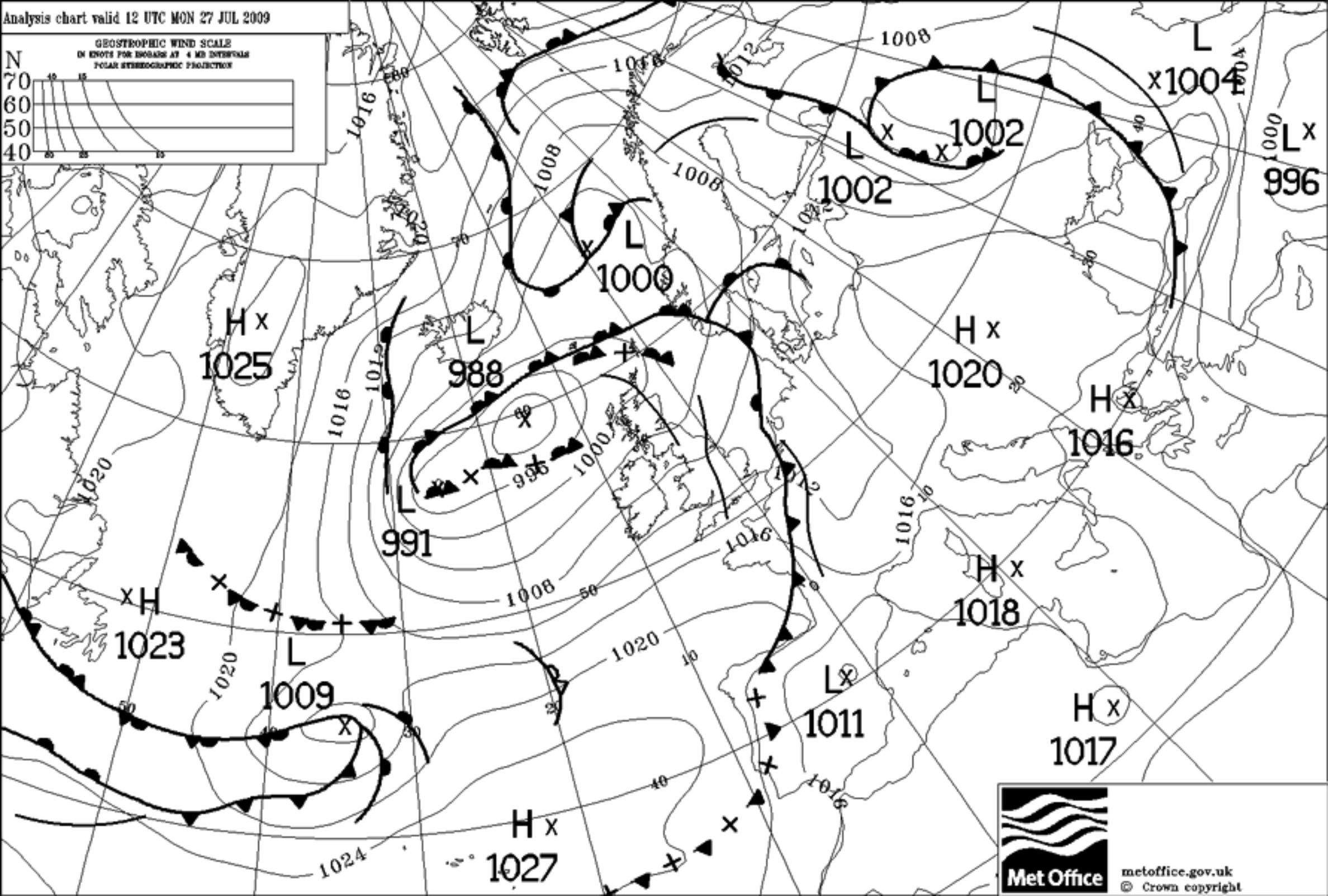
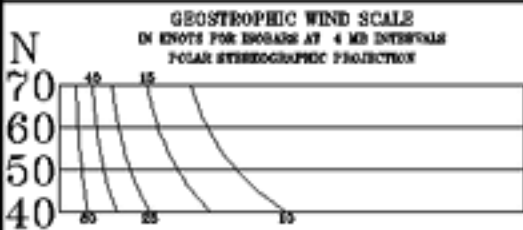
No Digital8 video recordings were made on this flight.

FLIGHT SUMMARY

Flight No B470
Date: 26/7/09
Project: CAVIAR
Location: Junfraujoch

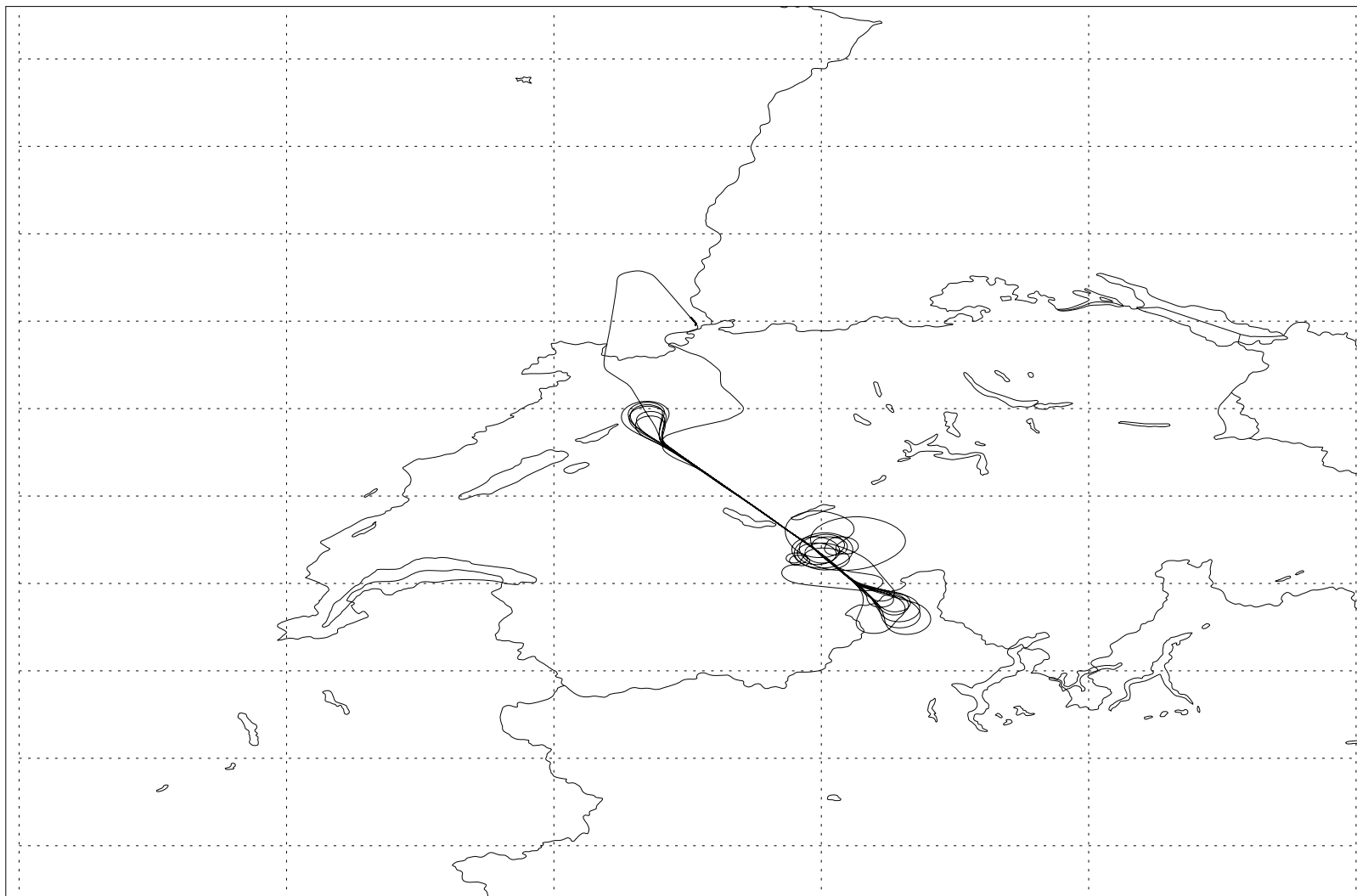
Start Time ----	End Time ----	Event -----	Height (s) -----	Hdg ---	Comments -----
090325		Start-Up	0.61 kft	198	Basel 47 30.0N 7 30.0
090706		tow	0.61 kft	198	start
091411		taxy	0.62 kft	063	
092200		T/O	0.58 kft	154	
092200	093400	Profile 1	1.5 - 15.0 kft	163	
093524	094436	Run 1	15.0 kft	127	
094233		ovhd jfj	15.0 kft	143	
094551	094840	Profile 2	15.0 - 18.0 kft	123	
094840	100022	Run 2	18.0 kft	325	
095151		ovhd jfj	18.0 kft	321	
100034	100324	Profile 3	18.0 - 21.0 kft	328	
100436	101333	Run 3	21.0 kft	134	
101158		ovhd jfj	21.0 kft	144	
101431	101750	Profile 4	21.0 - 24.0 kft	107	
101755	102919	Run 4	24.0 kft	326	
102120		Sonde 1	24.0 kft	321	
103045	103607	Profile 5	24.0 - 28.0 kft	001	
103132		Profile 5	25.0 kft	304	interrupt
103232		Profile 5	25.0 kft	214	resume
103607	104217	Run 5	28.0 kft	144	
103757		Sonde 2	28.0 kft	142	
104043		Sonde 3	28.0 kft	142	
104831	105105	Run 6	28.0 kft	338	
105125	105354	Orbit 1	28.0 kft	349	
105639	105641	Orbit 2	28.0 kft	030	
105731	111042	Profile 6	27.8 - 15.1 kft	354	
105410	105758	Orbit 2	27.6 kft	324	
111116	111304	Orbit 3	15.0 - 14.9 kft	250	
111323	111516	Orbit 4	15.1 - 15.0 kft	256	
112057	113250	Run 7	15.1 - 15.0 kft	287	
112343		ovhd jfj	15.0 kft	325	
113417	114006	Profile 7	15.0 - 18.0 kft	000	
113525		Profile 7	16.0 kft	272	interrupt
113755		Profile 7	16.0 kft	138	resume
114007	114727	Run 8	18.0 kft	142	
114539		ovhd jfj	18.0 kft	146	
114926	115331	Profile 8	18.0 - 21.9 kft	159	
115024		Profile 8	19.0 kft	262	interrupt
115117		Profile 8	19.0 kft	327	resume
115332	120340	Run 9	21.9 - 22.0 kft	319	
115532		ovhd jfj	22.0 kft	318	
120347	120717	Profile 9	22.0 - 26.0 kft	321	
120806	121642	Run 10	26.1 - 26.0 kft	144	
121202		Sonde 4	26.0 kft	142	
121536		ovhd jfj	26.0 kft	148	
121656	122203	Profile 10	26.0 - 30.0 kft	137	
122203	123235	Run 11	30.0 kft	330	
122453		Sonde 5	30.0 kft	323	
122926		Sonde 6	30.0 kft	318	
123313	124529	Profile 11	30.0 - 35.0 kft	352	
124409		ovhd jfj	34.7 kft	142	
125138	130114	Run 12	35.0 kft	323	
125150		Sonde 7	35.0 kft	322	
125408		Sonde 8	35.0 kft	324	
130537	131336	Run 13	35.0 kft	137	
131201		Sonde 9	35.0 kft	140	
131820	132223	Run 14	35.1 - 35.0 kft	346	
132538	134546	Profile 12	34.9 - 15.1 kft	130	
132730		Profile 12	33.0 kft	236	interrupt
132916		Profile 12	33.1 kft	285	resume

134603	134840	Run 15	15.0 - 15.1 kft	125
135023	140323	Run 16	15.1 - 15.0 kft	317
135402		ovhd jfj	15.0 kft	323
142222		Land	0.65 kft	152 Basel



B470 06:34:41–14:23:11

GLNG_PARA0581, GLAT_PARA0580



Sortie brief for FAAM

CAVIAR detachment 2009

Flight no:	B470
Proposed date:	Sunday 26 July 2009
Prepared by:	Stuart Newman
Version no.:	1.0, prepared 24 July 2009 1045L (0845Z)

Aim:	To sample intensively the water vapour structure of the atmosphere, and measure the radiative signature of the water vapour continuum.
Airfield:	Basel
Flight location:	Track between Payerne and Jungfrauoch high altitude research station.
Weather conditions required:	Clear sky (or very nearly clear sky, preferably $\frac{1}{8}$ cloud or less) from surface to space.
Dropsondes:	7 required. To be released from high altitudes only (FL265 and above).

Further sortie details

Coordinates: aim to fly straight and level runs between fixed coordinates

BADEP = 47° 1.6' N, 7° 25.5' E

(Jungfrauoch = 46° 32.9' N, 7° 59.1' E)

A = 46° 22.0' N, 8° 10.0' E

The runs are of approx. 10 mins duration, may be slightly longer at the lowest altitudes.

Orientation: Track approx. 142°T and reciprocal over Jungfrauoch and neighbouring glacier.

Radiometers: ARIES and TAFTS to coordinate their upward and downward views during the straight and level runs.

Note that the following flight altitudes are examples only, and in practice these will be chosen by the mission scientist.

Sortie profile

No.	Item	Time	Cumulative time
1	Take off from Basel at 0930Z (1130L)		
2	Transit to arrive at BADEP at FL150	00:15	00:15
3	Perform straight and level run (SLR) from BADEP to A at FL150	00:15	00:30
4	Climbing turn to FL180, rate of climb 1000 ft/min or less	00:05	00:35
5	Perform SLR (A to BADEP) at FL180	00:10	00:45
6	Climbing turn to FL210, rate of climb 1000 ft/min or less	00:05	00:50
7	Perform SLR (BADEP to A) at FL210	00:10	01:00
8	Climbing turn to FL240, rate of climb 1000 ft/min or less	00:05	01:05
9	Perform SLR (A to BADEP) at FL240, drop one sonde	00:10	01:15
10	Climbing turn to FL280, rate of climb 1000 ft/min or less	00:05	01:20
11	Perform SLR (BADEP to A) at FL280, drop one sonde	00:10	01:30
12	Reposition from A to the Jungfrauoch	00:05	01:35
13	Perform two orbits with angle of bank greater than SZA	00:10	01:45
14	Perform spiral descent from FL280 to FL150 over the Jungfrauoch at 1000 ft/min	00:15	02:00
15	Perform two orbits with angle of bank greater than SZA	00:10	02:10
16	Reposition from Jungfrauoch to A	00:05	02:15
17	Perform SLR (A to BADEP) at FL150	00:15	02:30
18	Climbing turn to FL180, rate of climb 1000 ft/min or less	00:05	02:35
19	Perform SLR (BADEP to A) at FL180	00:10	02:45
20	Climbing turn to FL220, rate of climb 1000 ft/min or less	00:05	02:50
21	Perform SLR (A to BADEP) at FL220	00:10	03:00
22	Climbing turn to FL260, rate of climb 1000 ft/min or less	00:05	03:05
23	Perform SLR (BADEP to A) at FL260, drop one sonde	00:10	03:15
24	Climbing turn to FL300, rate of climb 1000 ft/min or less	00:05	03:20
25	Perform SLR (A to BADEP) at FL300, drop two sondes	00:10	03:30
26	Straight climb (BADEP to A) to FL350, rate of climb 1000 ft/min or less	00:10	03:40
27	Perform SLR (A to BADEP) at FL350, drop two sondes	00:10	03:50
28	Reposition from BADEP to JFJ	00:10	04:00
29	Perform spiral descent from FL350 to FL150 over the Jungfrauoch at 1000 ft/min	00:20	04:20
30	Reposition from Jungfrauoch to A	00:05	04:25
31	Perform SLR (A to BADEP) at FL150	00:15	04:35
32	Return to Basel	00:15	04:50

B470—Sortie Debrief

Mission scientist: Chawn Harlow

Date: 26 July 2009

Campaign: CAVIAR

Being a long CAVIAR sortie working the BADEP to A transect, this flight entailed stacked runs from FL150 to FL280 followed by the release of two dropsondes and two orbits at FL280. A spiral descent was then carried out from FL280 to FL150 followed by two orbits at low level. Stacked runs were then carried out from FL150 to FL350 including the release of six dropsondes at various levels. A spiral descent was then carried out from FL350 to FL150 followed by a low level run from A to BADEP on the return to Basel. All orbits and spirals were carried out in the Jungfrauoch area.

Conditions were ideal during the first half of the sortie with no cloud at all levels baring a few Cu at levels below FL100. The second half of the sortie saw the intrusion of thin cirrus from the north. The word from Marc Coleman and Tom Gardner (who were carrying out the solar tracking measurements on the ground) was that their measurements were largely unaffected by the presence of the very thin cirrus.

The key radiation instruments onboard performed nearly flawlessly with even TAFTS having a good day. The MARSS laptop froze during a key portion of the flight. The data will have to be recovered from the PC for one of the runs at FL150. Two of the sondes (no. 1 and no. 8) were faulty requiring the release of replacements. FWVS seemed to be working well.

Mission Scientist's Log

Flight No B.470

Date 26/7/09

Name C. Harlow

Page 1 of 4

Time (GMT)	Run / Profile	Height	Hdg	GPS Position	Remarks / Observations (cloud type & amount in oktas, weather, visibility, winds, sea state etc.) eg Cirrus 2/8, StratoCu 3/8, hazy, wind 240°/24kts
09:22:44	T/O	880	163		1/8 Ci, Contrails
"	P1				Start P1
09:34:00	P1	FL150			End P1
09:35:15	R1	FL150	144		Start R1
					Clear above & below
09:44:36	R1	FL150			End R1
09:45:51	P2	FL150			Start P2
					Air mass PBL moister to
					South of massif - more SCu
09:48:40	P2	FL180			End P2
"	R2	FL180	325		Start R2
					Clear above, Ci to North
09:59					SWS reports no cloud above
10:00:21	R2	FL180	317		End R2
10:00:30	P3	FL180			Start P3
10:03:24	P3	FL210			End P3
10:04:34	R3	FL210			Start R3
10:13:33	R3	FL210			End R3
10:14:31	P4	FL210			Start P4
10:17:52	P4	FL240			End P4
10:17:52	R4	FL240			Start R4
10:21:20	S1	"			Sonde 1 - chute failure
10:29:17	R4	FL240			End R4
10:30:44	P5	FL240			Start P5
10:36:06	P5	FL280			End P5

Mission Scientist's Log

Flight No B.....470 Date 26/7/09 Name C. Harlow Page 2 of 4

Time (GMT)	Run / Profile	Height	Hdg	GPS Position	Remarks / Observations (cloud type & amount in oktas, weather, visibility, winds, sea state etc.) eg Cirrus 2/8, StratoCu 3/8, hazy, wind 240°/24kts
10:36:06	R5	FL280	143		Start R5
10:37:52	S2	"	"		Sonde 2 - GPS not avail at first
10:40:41	S3	"			Sonde 3 - OK
10:42:17	R5	"			End R5
10:48:31	R6	325			Start R6 - on reposition
10:51:03	R6				End R6
10:51:25	O1	FL280			Orbit 1 Start
10:53:54	O1	"			O1 End
10:54:16	O2	"			O2 start
10:56:36	O2	"			O2 End
10:57:24	P6	FL280			P6 Start Spiral
11:10:42	P6	FL150			P6
11:11:07	O3	"			O3 Start
11:13:02	O3	"			O3 end
11:13:22	O4	"			O4 Start
11:15:17	O4	"			O4 End
11:20:57	R7	FL150			Start R7
					Ci ^(thin) closing in from N
11:32:49	R7	FL150			End R7
11:34:17	P7	FL150			Start P7
11:40:07	P7	FL180			End P7
"	R8	FL180			Start Run 8
11:40:14 11:47:27	R8				End Run 8
11:49:26	P8	FL180			Start Pro 8
11:53:30	P8	FL220			End P8

Mission Scientist's Log

Flight No B. 470 Date 26/7/09 Name C. Harlow Page 3 of 4

Time (GMT)	Run / Profile	Height	Hdg	GPS Position	Remarks / Observations (cloud type & amount in oktas, weather, visibility, winds, sea state etc.) eg Cirrus 2/8, StratoCu 3/8, hazy, wind 240°/24kts
11:53:30	R9	FL220	320		Start Run 9
12:03:36	R9	FL220	316		End Run 9
12:03:43	P9	FL220			Start R Profile 9
12:07:17	P9	FL260			End Profile 9
12:08:06	R10	"	141	47°N 7°18'E	Start R10
12:12:01	S4	"		46°42'N 7°42'E	Sonde 4
12:16:43	R10	"			End R10
12:16:56	P10	FL260			Start P10
12:22:03	P10	FL300			End P10
"	R11	FL300	325		Start R11
12:24:52	S5	"		46°30'N 7°54'E	Sonde 5
12:24					Thin waves in Ci above
12:29:23	S6	FL300		46°48'N 7°36'E	Sonde 6
12:32:32	R11	"			End R11
12:33:13	P11	FL300			Start P11
12:45:29	P11	FL350			End P11
12:51:38	R12	FL350			Start R12
					C Phys saw 200/L at ~12:46
12:51: 38 ⁵⁰	S7	FL350			Sonde 7
12:53	R12	"			C Phys sees cloud on 2DC
12:54:05	S8	"		46°30'N 7°54'E	Sonde 8 - Faulty
13:01:14	R12	"			End Run 11 12
13:05:37	R13	"			Start Run 13
13:12	S9				Sonde 9 - OK
13:13:36	R13	"	147		End R13

Mission Scientist's Log

Flight No B.470.

Date 26/7/09.....

Name C. Harlow

Page 4 of 4

[illegible]

Aircraft Scientist's Log

MISSION SCIENTIST 2 LOG: STUART NEWMAN

Flight No **B.470**.....

Date **26/7/2009**.....

Page **1** of

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GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
0936	R1	FL150			Looks clear above at the moment; Some cirrus to the left at start of run T-3.6, Td-10.0°C, fairly moist
0949	R2	FL180			A to BASEP; some Ci to north but looks clear above. T-9.8, Td-13.9°C
1005	R3	FL210			BASEP to A: again Ci around + above but directly above looks clear? T-16.2, Td-22.5
1011	"	"			Sudden drying of atmosphere, from 90% RH to 70% RH
1021	R4	FL240			First dropsonde over JFS. T-21.4, Td-38.7 Fast faller
103630		FL280			Cirrus <u>just</u> to left + above. T-32.3, Td-36.9
1051		FL280			Into orbits - thin cirrus around?
105830	P↓	~FL270			Appear to be passing under a patch of thin cirrus at this moment.
1124	R8	FL150			V. thin cirrus apparent from many directions. T-3.1, Td-10.0°C
1140	R8	FL180			Around BASEP cirrus is prevalent, but mid-run looks clearer above. T-9.2, Td-16.1°C
1151	P↑	FL190			Near point A, thin cirrus toward the sun
1154	R9	FL220			Clear-ish above? T-17.8, Td-26.5
1208	R10	FL260			BASEP to A - v. thin cirrus overhead?? T-27.0, Td-33.4°C
121150	"	"			Almost certainly passing under thin cirrus here
1217					Looks clearer above at end of run
122220	R11	FL300			Patchy cirrus at start of run. T-37.3, Td-44.0°C
1227					I think we are under cirrus here
1240	P↑	FL337			Good clear slot above on descent from BASEP.
1248		FL350			Core cloud reports 100 counts (per litre) 2DC
125040		"			T-51.2, Td-51.6 Moist!!
1307		"			Really difficult to say whether or or not there is thin cirrus above
1312		"			Dropsonde (additional dye to one failing) clearer above over Jungfraujoch?
1318		"			High dewpts in last few mins + wisps of cloud nearby, seemingly at or below
1322		"			Molding pattern: orbit at FL350

1325

"

Definitely cirrus (thin) above

133230

FL294

Coming under cirrus; patchy on descent

1353

FL150

T-2.7, Td-10.9°C; thin Ci above?

FAAM Dropsonde Flight Log

Flight No.	B470	Date	26/07/2009	Operator	KFT	Page No.	1 of 1
GMT	Sonde No.	Event <i>eg land, splashdown</i>	Comments <i>pressure hPa, T deg C, RH %, wind direction deg, wind speed m/s, longitude, latitude, height m</i>				
102123	1	Launch	399.69 -14.13 16.86 0.00 0.00 0.00 7.987925 46.544107 7523.26				
102358	1	Land	665.91 2.37 7.37 337.44 4.76 -25.91 8.013625 46.537926 3563.47				
			Fast fall, no launch detect. Surface alt unknown ticked.				
103800	2	Launch	328.80 -32.70 82.24 316.20 20.40 0.80 7.721300 46.774400 8544.00				
104603	2	Land	817.03 10.32 79.85 14.67 0.96 -12.28 7.795268 46.756781 1507.31				
			Late winds (from 500mb). Surface alt unknown ticked.				
104045	3	Launch	328.90 -32.10 59.25 319.00 20.10 0.80 7.981000 46.551200 8542.90				
104704	3	Land	699.74 4.00 18.60 347.39 0.80 -11.14 8.045544 46.526885 2781.19				
			Surface alt unknown ticked. End drop time override.				
121206	4	Launch	360.50 -1.64 4.91 315.38 60.05 -7.01 7.695108 46.797760 8344.78				
122000	4	Land	860.51 14.32 67.03 338.26 1.79 -11.57 7.760968 46.783952 1088.38				
			Surface alt unknown ticked. Late launch detect 14s.				
122457	5	Launch	295.97 7.55 2.03 999.00 999.00 99.00 7.947800 46.582900 9974.35				
123123	5	Land	694.70 4.61 19.43 193.72 1.49 -12.16 8.053771 46.520478 2815.09				
			Surface alt unknown ticked. End drop time override. Very late launch detect.				
122927	6	Launch	300.60 -37.20 52.40 293.20 24.70 0.90 7.654900 46.831700 9150.10				
123919	6	Land	916.25 19.72 50.88 169.35 4.33 -11.07 7.738859 46.809480 506.07				
			Surface alt unknown ticked. End drop time override. No winds til below 850mb.				
125136	7	Launch	237.90 -51.20 79.05 298.50 26.60 1.50 8.162200 46.364300 10680.20				
130028	7	Land	752.75 6.95 71.92 113.92 0.80 -11.83 8.257421 46.323120 2107.33				
			Surface alt unknown ticked. Good drop.				
125408	8	Launch	Died leaving aircraft. No data whatsoever.				
	8	Land	No idea.				
130006	9	Launch	238.10 -51.20 76.27 299.10 26.00 0.70 7.515000 46.950600 10675.30				
131958	9	Land	674.59 2.99 24.00 224.71 1.71 -13.16 8.062447 46.518639 2993.57				
			Early launch detect! Otherwise sonde good.				

Flight:

B470

KEY

Not Fitted

Fitted, Not Operated

Duff Data
Minor Problems
OK

Thermometers

Cabin Temperature:

Heimann:

Deiced Temp:

Non-deiced Temp:

Hygrometers

FWVS:

Buck CR2:

General Eastern:

Johnson Williams:

Nevzorov:

Total Water Probe:

Cameras

Downward Facing:

Forward Facing:

Rearward Facing:

Upward Facing:

Navigation + Aircraft

Cruciform GPS:

GIN Applanix:

INU Honeywell:

Radar Altimeter:

RVSM IAS:

RVSM Static Pressure:

XR5 GPS:

Misc Core

HORACE:

AMTG:

AVAPS:

Cabin Pressure:

Printer:

S9 Static Pressure:

Satcom C:

Satcom H (VIRC):

Turb Centre-Static:

Turb Left Right:

Turb Up-Down:

Turb Horizontal Chk:

Turb Vertical Chk:

Weather Radar:

DLUs:

DLU AERACK:

DLU BBR Lower:

DLU BBR Upper:

DLU Core Chem:

DLU Core Consoles:

DLU Port Aft:

DLU Port Fwd:

DLU Stbd Fwd:

Radiometers

Lower:

BBR (clear) Lower:

BBR (IR) Lower:

BBR (red) Lower:

Upper:

BBR (clear) Upper:

BBR (IR) Upper:

BBR (red) Upper:

ARIES:

DEIMOS:

IR Camera:

JNO2 Lower:

JNO2 Upper:

JO1D Lower:

JO1D Upper:

MARSS:

SHIMS Lower:

SHIMS Upper:

SWS:

TAFTS:

Cloud Probes

2DC:

2DP:

FFSSP:

PCASP:

PCASP SPP-200:

2DS:

ADA:

CAPS:

CCN:

CDP (fuselage):

CDP (Canister):

CIP 100 (PIP):

CIP 25 (CIP):

CPI:

CVI (Inlet):

CVI PCASP-X:

CVI Ly-A Hygro:

FSSP (UMan):

SID1:

SID2:

SID3:

Aerosol

CPC 3025A:

CPC 3786 H2O:

Filters 47mm:

Filters 90mm:

Neph - Dry:

Neph - Wet:

PSAP:

AMS:

CPC (AMS):

SMPS (AMS):

CPC 3010A (CVI):

INC:

Mini-LIDAR:

SP2:

UHSAS:

VACC:

Chemistry

CO Aerolaser 5002:

NOx TE42C:

Ozone TE49C:

Ozone TE49:

SO2 TE43C:

TDLAS (NIR) CH4:

TDLAS (NIR) CO2:

FAGE:

Formaldehyde:

NOx FAAM:

NOxy:

ORAC:

PAN:

PERCA:

Peroxide:

PTRMS:

TDLAS (1C):

WAS Bags:

WAS Bottles:

Misc Non-Core

CASI/ATM:

LIDAR (big):

LTI:

SAW Hygrometer:



Faults / Incidents Log

Flight No. B470

Date: 26/7/09

Instruments

1. RFC not operational
- 2.

Aircraft

- 1.
- 2.
- 3.

Satcom-H Calls

nil

Post Flight - Turb Probe Water Traps

1. Indicate Amount of Water: a) Nil b) 1-2 drops c) ¼ full or more d) Ice present
2. Emptied by:
3. Dried by:

ARIES flight log

Flight: 3470

page 1 of 2

Date: 26/07/04 Operator(s): D. TUDDEMAN

Res: 1

Gain A: 2 B: 2

Loc./Notes: CAUIAR, SWITZERLAND

Scans: either "[IGMs]X[co-adds]", or "[stop DRS time]" if in start/stop, or "[macro name]". View: mirror angle.

DRS time	Flt ptrn	Scans	View	Shtr	HBB	CBB	Comments
							CN2
							Carrir Nadir Zenith 30s
							(CH 30s, N30s, Z30s) x ∞
							CZP
							Carrir Profile Zen
							(CH 20s, Z20s) x ∞
093518	FL150	CN2		0	71	31	Start
094515	FL150	CN2		0	71	31	Stop
094847	FL180	CN2		0	71	31	Start
100035	FL180	CN2		0	71	31	Stop
100430	FL210	CN2		0	71	30	
101437	FL210	CN2		0	71	30	Stop
101756	FL240	CN2		0	71	31	Start
102940	FL240	CN2		0	71	31	Stop
103608	FL280	CN2		0	71	31	Start
104222	FL280	CN2		0	71	31	Stop
104833	FL280	CN2		0	70	30	Start short run
105103	FL280	CN2		0	71	31	
105127	FL280	CZP		0	71	31	
	Orbit	"					
105402	End Orbit	"		0	71	31	
105422	Next Orbit	"					FL280
105640	End orbit	"		0	71	30	"
105727	Spiral descent	"		0	71	31	
110040	End descent	"		0	71	31	FL150
111109	Orbit FL150	"		0	71	31	
111527	End orbit	"		0	71	31	FL150
111540	FL150	CZP		0	71	31	Stop script
112110	FL150	CN2		0	71	31	Start
113250	FL150	CN2		0	71	31	Stop
114017	FL180	CN2		0	71	31	Start

ARIES flight log

Flight: B 470

page 2 of 2

Date: 26/02/04 **Operator(s):** D. T. ADENAN

Res: 1

Gain A: 2 **B:** 2

Loc./Notes: SWISS CAVIAR

Scans: either "[IGMs]X[co-adds]", or "[stop DRS time]" if in start/stop, or "[macro name]". **View:** mirror angle.

[illegible]

Microwave Radiometers FLIGHT LOG		Date	260709	Flight	B470	log pages
Operator(s)	JB	Campaign	CAVIAR			
Departure	Basel	Arrival	Basel			

System start MARSS

Visual pod inspection						•
Close 3 SSP circuit breakers						•
Close all MARSS circuit breakers						•
FERA on	at time					
Temperature controller initial temps	Ch16	17°C	Ch	17°C	Ch18	16°C
Temperature controller set points		54°C	17	58°C	-20	40°C
MARSS CPU on	at time					06:52
Initial target temperatures	Hot	289	Cold	298		
Target heating						•
*** CHECK SCAN HEAD CLEAR ***						•
Scanning on (LMD box)	at time					Test 07:07
Scan indication	Monitor		•	Visual		

Deimos

Close all Deimos circuit breakers					
Turn on Deimos CPU					
*** CHECK SCAN HEAD CLEAR ***					
Start Deimos Software				at time	
Initial target temperatures	Hot		Cold		
Target heating					
Scan indication	Monitor			Visual	
Weather	Cloud			Precip	
	Surface			Pressure	
	Other				

System functionality check

(after initial system warmup, approx 1 hour)

PC to DRS Time error	$t_{PC}=t_{DRS} +$	0	at time	09:05:25		
Brightness temps 'sensible'						•
Target temps	MARSS:	Hot	344.5	Cold	311.03	
	Deimos:	Hot		Cold		
Channel gains 'sensible'	Ch1 A (-)	Ch3 A (-)	Ch1 B (-)	Ch3 B (-)		
	Ch16 (40-44)	Ch17 (45-49)	Ch18 (40-44)	Ch19 (40-44)	Ch20 (44-48)	
	36.7	32.07	39.3	42.89	40.59	

Power changeover

POWER CHANGEOVER		
Headset on before start		•
Listen to engine start sequence	4, 3, 2, 1.	•
LMD off (3 switches, bottom to top)		•
Exit Deimos Software (x)		
POWER CHANGEOVER		
LMD on (3 switches, top to bottom)	then pushbutton	•
Restart Deimos Software		
System running again		at time

Flight #	B	Date		Operator(s)		log page	2	of	2
Time	Run id	Alt/FL	Remarks					Sys	
09:30ish	trans		Very dry layer on climb out after take off. Clear sky's, some ci						
11:36	P7		Cloud above?						
13:46	R16		Operator error, changed handshaking from none, data drop out on laptop. Rectified by 13:54.						
14:01	R17		Felt change in aircraft pitch & Channel counts all rose sharply.						
14:28:00	Taxi		MARSS CPU 14:28:10						

B470_SWS_SHIMS_EventLog

07:14:09.71	---	-	-	-	-	
07:14:09.71	---	-	-	-	-	+++ SOFTWARE START/RESTART +++
07:14:09.71	---	-	-	-	-	+++ hh:mm:ss.ff / Instr / Posn / Period / tVIS/ tNIR / Comment +++
07:14:09.71	---	-	-	-	-	+++ Flight no. B470
07:14:09.71	---	-	-	-	-	
07:14:13.82	LSH	-	100	-	-	Sample period changed from 250ms to 100ms.
07:14:16.17	USH	-	100	-	-	Sample period changed from 250ms to 100ms.
07:14:21.91	SWS	-	100	-	-	Sample period changed from 250ms to 100ms.
07:14:31.26	SWS	-	-	-	-	Initialization: VIS OK NIR OK
07:14:31.35	USH	-	-	-	-	Initialization: VIS OK NIR OK
07:14:31.45	LSH	-	-	-	-	Initialization: VIS OK NIR OK
07:14:33.22	SWS	-	-	-	5	NIR int.time changed from 5ms to 5ms.
07:14:35.73	SWS	-	-	40	-	VIS int.time changed from 5ms to 40ms.
07:14:35.73	SWS	-	-	-	40	NIR int.time changed from 5ms to 40ms.
07:14:38.19	SWS	-	-	40	40	Manual scene recording started.
07:15:00.31	USH	-	-	-	5	NIR int.time changed from 5ms to 5ms.
07:15:02.04	USH	-	-	40	-	VIS int.time changed from 5ms to 40ms.
07:15:02.04	USH	-	-	-	40	NIR int.time changed from 5ms to 40ms.
07:15:05.31	USH	-	-	40	40	Manual scene recording started.
07:15:09.28	LSH	-	-	-	5	NIR int.time changed from 5ms to 5ms.
07:15:10.92	LSH	-	-	40	-	VIS int.time changed from 5ms to 40ms.
07:15:10.93	LSH	-	-	-	40	NIR int.time changed from 5ms to 40ms.
07:15:12.90	LSH	-	-	40	40	Manual scene recording started.
07:15:39.55	---	-	-	-	-	Reset shutters.
07:15:45.33	SWS	-	-	40	40	Dark measurement started.
07:15:45.37	LSH	-	-	40	40	Dark measurement started.
07:15:45.44	USH	-	-	40	40	Dark measurement started.
07:15:46.17	SWS	-	-	40	40	Manual scene recording started.
07:15:46.39	LSH	-	-	40	40	Manual scene recording started.
07:15:46.58	USH	-	-	40	40	Manual scene recording started.
07:15:47.90	SWS	-	-	40	40	Dark measurement started.
07:15:47.97	LSH	-	-	40	40	Dark measurement started.
07:15:47.97	USH	-	-	40	40	Dark measurement started.
07:15:48.78	SWS	-	-	40	40	Manual scene recording started.
07:15:49.00	LSH	-	-	40	40	Manual scene recording started.
07:15:49.21	USH	-	-	40	40	Manual scene recording started.
07:16:08.78	SWS	-	-	40	40	Dark measurement started.
07:16:08.82	USH	-	-	40	40	Dark measurement started.
07:16:08.88	LSH	-	-	40	40	Dark measurement started.
07:16:09.67	SWS	-	-	40	40	Manual scene recording started.
07:16:09.89	USH	-	-	40	40	Manual scene recording started.
07:16:10.11	LSH	-	-	40	40	Manual scene recording started.
07:16:13.63	LSH	-	-	40	40	Dark measurement started.
07:16:13.68	SWS	-	-	40	40	Dark measurement started.
07:16:13.69	USH	-	-	40	40	Dark measurement started.
07:16:14.50	LSH	-	-	40	40	Manual scene recording started.
07:16:14.72	SWS	-	-	40	40	Manual scene recording started.
07:16:14.95	USH	-	-	40	40	Manual scene recording started.
07:16:18.44	SWS	-	-	-	-	Idling
07:16:18.51	LSH	-	-	-	-	Idling
07:16:18.57	USH	-	-	-	-	Idling
07:44:54.45	---	-	-	-	-	Reset shutters.
07:44:58.21	SWS	-	-	40	40	Dark measurement started.
07:44:58.21	LSH	-	-	40	40	Dark measurement started.
07:44:58.22	USH	-	-	40	40	Dark measurement started.
07:44:59.62	LSH	-	-	-	-	Idling
07:44:59.65	SWS	-	-	-	-	Idling
07:44:59.72	USH	-	-	-	-	Idling
07:45:04.17	SWS	-	-	40	40	Manual scene recording started.
07:45:04.17	LSH	-	-	40	40	Manual scene recording started.
07:45:04.18	USH	-	-	40	40	Manual scene recording started.
07:45:16.62	SWS	-	-	-	-	Telescope motor initialised.
07:45:19.79	SWS	0.0	-	-	-	Telescope sent to -6.000
07:45:20.35	SWS	-6.0	-	-	-	Telescope stopped.
07:45:26.20	SWS	-6.0	-	-	-	Telescope sent to 0.000
07:58:43.21	---	-	-	-	-	*** microtops comparison finished

07:58:47.06	---	-	-	-	-	Reset shutters.
07:58:52.61	USH	-	-	40	40	Dark measurement started.
07:58:52.61	LSH	-	-	40	40	Dark measurement started.
07:58:52.68	SWS	-	-	40	40	Dark measurement started.
07:58:53.46	USH	-	-	40	40	Manual scene recording started.
07:58:53.74	LSH	-	-	40	40	Manual scene recording started.
07:58:53.96	SWS	-	-	40	40	Manual scene recording started.
07:58:54.84	LSH	-	-	-	-	Idling
07:58:54.92	USH	-	-	-	-	Idling
07:58:54.93	SWS	-	-	-	-	Idling
08:51:31.35	---	-	-	-	-	Reset shutters.
08:58:31.35	---	-	-	-	-	Reset shutters.
08:58:34.58	SWS	-	-	40	40	Dark measurement started.
08:58:34.58	LSH	-	-	40	40	Dark measurement started.
08:58:34.61	USH	-	-	40	40	Dark measurement started.
08:58:35.40	LSH	-	-	40	40	Dark measurement started.
08:58:35.47	USH	-	-	40	40	Dark measurement started.
08:58:35.97	SWS	-	-	-	-	Idling
08:58:36.29	LSH	-	-	-	-	Idling
08:58:36.50	USH	-	-	-	-	Idling
08:58:38.70	SWS	-	-	40	40	Dark measurement started.
08:58:38.70	LSH	-	-	40	40	Dark measurement started.
08:58:38.71	USH	-	-	40	40	Dark measurement started.
08:58:39.62	SWS	-	-	-	-	Idling
08:58:39.80	LSH	-	-	-	-	Idling
08:58:40.02	USH	-	-	-	-	Idling
08:58:42.41	SWS	-	-	40	40	Manual scene recording started.
08:58:42.41	LSH	-	-	40	40	Manual scene recording started.
08:58:42.42	USH	-	-	40	40	Manual scene recording started.
09:01:06.37	USH	-	-	-	-	Idling
09:01:06.43	LSH	-	-	-	-	Idling
09:01:06.44	SWS	-	-	-	-	Idling
09:07:47.83	SWS	-	-	40	40	Manual scene recording started.
09:07:47.83	LSH	-	-	40	40	Manual scene recording started.
09:07:47.86	USH	-	-	40	40	Manual scene recording started.
09:07:50.29	---	-	-	-	-	Reset shutters.
09:07:55.18	SWS	-	-	40	40	Dark measurement started.
09:07:55.18	LSH	-	-	40	40	Dark measurement started.
09:07:55.24	USH	-	-	40	40	Dark measurement started.
09:07:56.03	SWS	-	-	40	40	Manual scene recording started.
09:07:56.32	LSH	-	-	40	40	Manual scene recording started.
09:07:56.55	USH	-	-	40	40	Manual scene recording started.
09:07:58.52	LSH	-	-	40	40	Dark measurement started.
09:07:58.53	USH	-	-	40	40	Dark measurement started.
09:07:58.55	SWS	-	-	40	40	Dark measurement started.
09:07:59.42	LSH	-	-	40	40	Manual scene recording started.
09:07:59.64	USH	-	-	40	40	Manual scene recording started.
09:07:59.79	SWS	-	-	40	40	Manual scene recording started.
09:12:24.07	---	-	-	-	-	Reset shutters.
09:12:28.30	SWS	-	-	40	40	Dark measurement started.
09:12:28.31	USH	-	-	40	40	Dark measurement started.
09:12:28.37	LSH	-	-	40	40	Dark measurement started.
09:12:29.18	SWS	-	-	40	40	Manual scene recording started.
09:12:29.40	USH	-	-	40	40	Manual scene recording started.
09:12:29.59	LSH	-	-	40	40	Manual scene recording started.
09:12:34.36	LSH	-	-	600	-	VIS int.time changed from 40ms to 600ms.
09:12:34.37	LSH	-	-	-	600	NIR int.time changed from 40ms to 600ms.
09:12:39.26	LSH	-	-	40	-	VIS int.time changed from 600ms to 40ms.
09:12:39.27	LSH	-	-	-	40	NIR int.time changed from 600ms to 40ms.
09:12:41.36	USH	-	-	40	40	Dark measurement started.
09:12:41.36	LSH	-	-	40	40	Dark measurement started.
09:12:41.48	SWS	-	-	40	40	Dark measurement started.
09:12:42.26	USH	-	-	40	40	Manual scene recording started.
09:12:42.47	LSH	-	-	40	40	Manual scene recording started.
09:12:42.64	SWS	-	-	40	40	Manual scene recording started.
09:24:11.46	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:24:13.25	SWS	-	-	40	40	Dark measurement started.
09:24:14.10	SWS	-	-	40	40	Manual scene recording started.
09:24:16.81	SWS	-	-	40	40	Dark measurement started.

09:24:17.71	SWS	-	-	40	40	Manual scene recording started.
09:24:20.55	---	-	-	-	-	Reset shutters.
09:24:23.77	---	-	-	-	-	Reset shutters.
09:24:27.52	USH	-	-	40	40	Dark measurement started.
09:24:27.53	SWS	-	-	40	40	Dark measurement started.
09:24:27.57	LSH	-	-	40	40	Dark measurement started.
09:24:28.42	USH	-	-	40	40	Manual scene recording started.
09:24:28.63	SWS	-	-	40	40	Manual scene recording started.
09:24:28.86	LSH	-	-	40	40	Manual scene recording started.
09:30:46.53	---	-	-	-	-	*** temp 9.9 deg
09:30:49.30	---	-	-	-	-	Reset shutters.
09:30:56.31	LSH	-	-	40	40	Dark measurement started.
09:30:56.35	SWS	-	-	40	40	Dark measurement started.
09:30:56.38	USH	-	-	40	40	Dark measurement started.
09:30:56.98	USH	-	-	40	40	Dark measurement started.
09:30:57.21	LSH	-	-	40	40	Manual scene recording started.
09:30:57.45	SWS	-	-	40	40	Manual scene recording started.
09:30:57.85	USH	-	-	-	-	Idling
09:30:58.84	USH	-	-	40	40	Dark measurement started.
09:30:58.94	SWS	-	-	40	40	Dark measurement started.
09:30:58.96	LSH	-	-	40	40	Dark measurement started.
09:30:59.51	LSH	-	-	40	40	Dark measurement started.
09:30:59.73	USH	-	-	-	-	Idling
09:30:59.89	SWS	-	-	40	40	Manual scene recording started.
09:31:00.38	LSH	-	-	-	-	Idling
09:31:03.36	USH	-	-	40	40	Manual scene recording started.
09:31:03.37	LSH	-	-	40	40	Manual scene recording started.
09:34:08.93	SWS	-	-	40	40	Dark measurement started.
09:34:09.78	SWS	-	-	40	40	Manual scene recording started.
09:34:10.76	SWS	-	-	40	40	Dark measurement started.
09:34:11.65	SWS	-	-	40	40	Manual scene recording started.
09:34:12.35	SWS	-	-	40	40	Dark measurement started.
09:34:13.18	SWS	-	-	40	40	Manual scene recording started.
09:34:13.76	SWS	-	-	40	40	Dark measurement started.
09:34:14.62	SWS	-	-	40	40	Manual scene recording started.
09:34:15.47	SWS	-	-	40	40	Dark measurement started.
09:34:16.35	SWS	-	-	40	40	Manual scene recording started.
09:34:17.82	SWS	-	-	40	40	Dark measurement started.
09:34:18.70	SWS	-	-	40	40	Manual scene recording started.
09:34:19.32	SWS	-	-	40	40	Dark measurement started.
09:34:20.19	SWS	-	-	40	40	Manual scene recording started.
09:34:23.16	---	-	-	-	-	Reset shutters.
09:34:28.03	SWS	-	-	40	40	Dark measurement started.
09:34:28.04	LSH	-	-	40	40	Dark measurement started.
09:34:28.14	USH	-	-	40	40	Dark measurement started.
09:34:28.91	SWS	-	-	40	40	Manual scene recording started.
09:34:29.16	LSH	-	-	40	40	Manual scene recording started.
09:34:29.35	USH	-	-	40	40	Manual scene recording started.
09:34:31.02	LSH	-	-	40	40	Dark measurement started.
09:34:31.06	SWS	-	-	40	40	Dark measurement started.
09:34:31.15	USH	-	-	40	40	Dark measurement started.
09:34:31.89	LSH	-	-	40	40	Manual scene recording started.
09:34:32.16	SWS	-	-	40	40	Manual scene recording started.
09:34:32.38	USH	-	-	40	40	Manual scene recording started.
09:34:35.38	SWS	-	-	40	40	Dark measurement started.
09:34:35.44	LSH	-	-	40	40	Dark measurement started.
09:34:35.46	USH	-	-	40	40	Dark measurement started.
09:34:36.29	SWS	-	-	40	40	Manual scene recording started.
09:34:36.50	LSH	-	-	40	40	Manual scene recording started.
09:34:36.72	USH	-	-	40	40	Manual scene recording started.
09:35:19.48	---	-	-	-	-	*** run 1
09:35:31.87	---	-	-	-	-	*** FL 150
09:35:59.76	SWS	-0.0	-	-	-	Telescope sent to -45.000
09:36:02.85	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:36:03.74	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
09:36:11.83	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
09:36:18.96	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:36:19.93	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
09:36:28.02	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0

09:36:35.06	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:36:36.04	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
09:36:44.16	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
09:36:46.17	---	-	-	-	-	*** saturating between -28 and -45
09:36:51.48	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:36:52.28	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
09:37:00.35	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
09:37:08.42	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
09:37:16.48	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
09:37:23.47	---	-	-	-	-	*** no point scanning past -25 deg so altering scan setup for this run
09:37:24.36	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
09:37:32.39	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
09:37:39.54	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:37:40.45	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
09:37:48.53	SWS	45.0	-	-	-	Telescope at scan limit - going to -25.0
09:37:54.91	SWS	-25.0	-	-	-	Telescope at scan limit - going to 45.0
09:38:01.26	SWS	45.0	-	-	-	Telescope at scan limit - going to -25.0
09:38:07.64	SWS	-25.0	-	-	-	Telescope at scan limit - going to 45.0
09:38:13.98	SWS	45.0	-	-	-	Telescope at scan limit - going to -25.0
09:38:20.34	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:38:27.27	SWS	54.1	-	-	-	Telescope at scan limit - going to -25.0
09:38:34.20	SWS	-24.7	-	-	-	Telescope at scan limit - going to 55.0
09:38:41.14	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:38:48.06	SWS	-24.8	-	-	-	Telescope at scan limit - going to 55.0
09:38:55.04	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:39:01.95	SWS	-24.8	-	-	-	Telescope at scan limit - going to 55.0
09:39:09.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:39:16.28	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:39:23.19	SWS	54.6	-	-	-	Telescope at scan limit - going to -25.0
09:39:30.09	SWS	-24.3	-	-	-	Telescope at scan limit - going to 55.0
09:39:37.04	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:39:43.98	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:39:50.90	SWS	54.8	-	-	-	Telescope at scan limit - going to -25.0
09:39:57.83	SWS	-24.8	-	-	-	Telescope at scan limit - going to 55.0
09:40:04.72	SWS	54.5	-	-	-	Telescope at scan limit - going to -25.0
09:40:11.64	SWS	-24.5	-	-	-	Telescope at scan limit - going to 55.0
09:40:18.52	SWS	54.3	-	-	-	Telescope at scan limit - going to -25.0
09:40:25.47	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:40:32.37	SWS	54.5	-	-	-	Telescope at scan limit - going to -25.0
09:40:39.30	SWS	-24.7	-	-	-	Telescope at scan limit - going to 55.0
09:40:46.38	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:40:53.33	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:41:00.30	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:41:07.18	SWS	-24.4	-	-	-	Telescope at scan limit - going to 55.0
09:41:14.08	SWS	54.5	-	-	-	Telescope at scan limit - going to -25.0
09:41:21.05	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:41:27.99	SWS	54.9	-	-	-	Telescope at scan limit - going to -25.0
09:41:34.85	SWS	-24.0	-	-	-	Telescope at scan limit - going to 55.0
09:41:41.78	SWS	54.7	-	-	-	Telescope at scan limit - going to -25.0
09:41:48.66	SWS	-24.2	-	-	-	Telescope at scan limit - going to 55.0
09:41:55.64	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:42:02.56	SWS	-24.8	-	-	-	Telescope at scan limit - going to 55.0
09:42:09.54	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:42:16.51	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:42:23.47	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:42:30.45	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:42:37.40	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:42:44.26	SWS	-23.9	-	-	-	Telescope at scan limit - going to 55.0
09:42:51.22	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:42:58.12	SWS	-24.4	-	-	-	Telescope at scan limit - going to 55.0
09:43:05.17	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:43:12.05	SWS	-24.4	-	-	-	Telescope at scan limit - going to 55.0
09:43:19.07	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:43:26.04	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:43:32.98	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:43:39.97	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:43:46.93	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:43:53.86	SWS	-24.8	-	-	-	Telescope at scan limit - going to 55.0

09:44:00.83	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:44:07.83	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:44:14.79	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:44:21.73	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:44:28.68	SWS	55.0	-	-	-	Telescope at scan limit - going to -25.0
09:44:35.66	SWS	-25.0	-	-	-	Telescope at scan limit - going to 55.0
09:44:36.01	---	-	-	-	-	*** end of run
09:44:38.96	SWS	10.3	-	-	-	Telescope stopped.
09:44:47.26	SWS	10.3	-	-	-	Telescope sent to 0.000
09:44:48.76	---	-	-	-	-	Reset shutters.
09:44:52.04	LSH	-	-	40	40	Dark measurement started.
09:44:52.08	SWS	-	-	40	40	Dark measurement started.
09:44:52.11	USH	-	-	40	40	Dark measurement started.
09:44:52.89	LSH	-	-	40	40	Manual scene recording started.
09:44:53.20	SWS	-	-	40	40	Manual scene recording started.
09:44:53.43	USH	-	-	40	40	Manual scene recording started.
09:44:54.31	LSH	-	-	40	40	Dark measurement started.
09:44:54.33	SWS	-	-	40	40	Dark measurement started.
09:44:54.34	USH	-	-	40	40	Dark measurement started.
09:44:55.21	LSH	-	-	40	40	Manual scene recording started.
09:44:55.42	SWS	-	-	40	40	Manual scene recording started.
09:44:55.61	USH	-	-	40	40	Manual scene recording started.
09:45:55.19	---	-	-	-	-	*** profile climb
09:46:56.35	---	-	-	-	-	*** 9.8 deg
09:48:01.55	---	-	-	-	-	Reset shutters.
09:48:05.94	USH	-	-	40	40	Dark measurement started.
09:48:06.00	LSH	-	-	40	40	Dark measurement started.
09:48:06.04	SWS	-	-	40	40	Dark measurement started.
09:48:06.83	USH	-	-	40	40	Manual scene recording started.
09:48:07.06	LSH	-	-	40	40	Manual scene recording started.
09:48:07.26	SWS	-	-	40	40	Manual scene recording started.
09:48:08.61	SWS	-	-	40	40	Dark measurement started.
09:48:08.68	LSH	-	-	40	40	Dark measurement started.
09:48:08.74	USH	-	-	40	40	Dark measurement started.
09:48:09.09	LSH	-	-	40	40	Dark measurement started.
09:48:09.52	SWS	-	-	40	40	Manual scene recording started.
09:48:09.89	USH	-	-	40	40	Manual scene recording started.
09:48:10.11	LSH	-	-	-	-	Idling
09:48:11.92	LSH	-	-	40	40	Dark measurement started.
09:48:12.00	SWS	-	-	40	40	Dark measurement started.
09:48:12.02	USH	-	-	40	40	Dark measurement started.
09:48:12.64	USH	-	-	40	40	Dark measurement started.
09:48:12.82	LSH	-	-	-	-	Idling
09:48:13.04	SWS	-	-	40	40	Manual scene recording started.
09:48:13.57	USH	-	-	-	-	Idling
09:48:14.65	LSH	-	-	40	40	Manual scene recording started.
09:48:14.66	USH	-	-	40	40	Manual scene recording started.
09:48:48.61	---	-	-	-	-	*** run 2 at FL 180
09:48:50.06	SWS	-0.0	-	-	-	Telescope at scan limit - going to 55.0
09:48:50.48	SWS	1.9	-	-	-	Telescope sent to -55.000
09:49:04.07	SWS	-54.8	-	-	-	Telescope at scan limit - going to 55.0
09:49:13.90	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
09:49:23.67	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
09:49:33.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:49:35.69	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:49:42.18	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:49:48.05	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:49:50.80	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:49:52.78	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:49:59.40	SWS	-44.9	-	-	-	Telescope at scan limit - going to 55.0
09:50:05.17	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:50:08.08	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:50:10.10	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:50:16.75	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:50:22.59	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:50:25.45	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:50:27.65	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:50:34.05	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:50:39.87	SWS	-	-	-	-	Warning: Clipping may be occurring.

09:50:41.42	---	-	-	-	-	*** saturating between 15 and 40 deg
09:50:42.76	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:50:45.12	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:50:51.40	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:51:00.09	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:51:04.30	SWS	-	-	40	40	Dark measurement started.
09:51:05.19	SWS	-	-	40	40	Manual scene recording started.
09:51:08.80	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:51:14.86	SWS	-	-	40	40	Dark measurement started.
09:51:15.71	SWS	-	-	40	40	Manual scene recording started.
09:51:17.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:51:17.88	SWS	-	-	20	-	VIS int.time changed from 40ms to 20ms.
09:51:17.88	SWS	-	-	-	20	NIR int.time changed from 40ms to 20ms.
09:51:21.89	SWS	-	-	20	20	Dark measurement started.
09:51:22.55	SWS	-	-	20	20	Manual scene recording started.
09:51:26.10	SWS	-44.9	-	-	-	Telescope at scan limit - going to 55.0
09:51:34.80	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:51:43.44	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:51:52.13	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:52:00.79	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:52:09.49	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:52:11.76	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:52:18.19	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:52:21.08	---	-	-	-	-	*** reduced int time, no longer saturating but still getting stray reflections between 15 and 40 deg
09:52:24.21	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:52:26.80	SWS	54.9	-	-	-	Telescope at scan limit - going to -45.0
09:52:28.87	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:52:35.47	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:52:41.36	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:52:44.11	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:52:44.94	---	-	-	-	-	*** scan rate is 10 deg per second
09:52:46.12	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:52:52.76	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:52:58.69	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:53:01.43	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:53:03.41	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:53:08.70	---	-	-	-	-	*** saturating again
09:53:10.21	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:53:16.07	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:53:18.89	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:53:20.86	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:53:27.52	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:53:33.48	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:53:36.11	SWS	54.8	-	-	-	Telescope at scan limit - going to -45.0
09:53:38.07	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:53:44.81	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:53:50.96	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:53:53.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:53:55.62	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:54:02.16	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:54:08.33	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:54:10.81	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:54:12.97	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:54:19.50	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:54:25.71	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:54:28.20	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:54:30.35	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:54:36.92	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:54:43.07	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:54:45.54	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:54:47.60	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:54:54.22	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:55:00.26	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:55:02.97	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:55:04.98	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:55:11.66	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:55:17.71	SWS	-	-	-	-	Warning: Clipping may be occurring.

09:55:20.38	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:55:22.32	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:55:29.01	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:55:34.97	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:55:37.76	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:55:39.73	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:55:46.41	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:55:52.37	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:55:55.05	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:55:56.98	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:56:03.71	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:56:09.82	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:56:12.33	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:56:14.25	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:56:19.42	---	-	-	-	-	*** telescope occasionally overshoots
09:56:21.02	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:56:27.12	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:56:29.76	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:56:31.70	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:56:38.51	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:56:44.60	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:56:47.16	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:56:49.18	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:56:55.76	SWS	-44.9	-	-	-	Telescope at scan limit - going to 55.0
09:57:01.73	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:57:04.52	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:57:06.50	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:57:13.13	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:57:19.10	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:57:21.87	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:57:23.84	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:57:30.54	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:57:36.59	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:57:39.18	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:57:41.07	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:57:47.80	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:57:53.73	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:57:56.41	SWS	54.9	-	-	-	Telescope at scan limit - going to -45.0
09:57:58.35	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:58:05.10	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:58:11.08	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:58:13.85	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:58:15.81	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:58:22.59	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:58:28.57	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:58:31.33	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:58:33.23	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:58:39.96	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:58:45.98	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:58:48.66	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:58:50.59	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:58:57.31	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:59:03.21	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:59:06.00	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:59:07.95	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:59:14.54	SWS	-44.2	-	-	-	Telescope at scan limit - going to 55.0
09:59:20.55	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:59:23.13	SWS	54.7	-	-	-	Telescope at scan limit - going to -45.0
09:59:25.09	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:59:31.82	SWS	-45.0	-	-	-	Telescope at scan limit - going to 55.0
09:59:37.75	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:59:40.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:59:42.47	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:59:49.14	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
09:59:55.11	SWS	-	-	-	-	Warning: Clipping may be occurring.
09:59:57.91	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
09:59:59.88	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:00:00.00	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:00:06.67	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0

10:00:12.61	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:00:15.30	SWS	55.0	-	-	-	Telescope at scan limit - going to -45.0
10:00:17.24	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:00:23.97	SWS	-45.1	-	-	-	Telescope at scan limit - going to 55.0
10:00:25.44	---	-	-	-	-	*** end of run
10:00:27.83	SWS	-2.9	-	-	-	Telescope stopped.
10:00:36.64	SWS	-2.9	-	-	-	Telescope sent to 0.000
10:00:39.79	---	-	-	-	-	Reset shutters.
10:00:43.73	LSH	-	-	40	40	Dark measurement started.
10:00:43.81	SWS	-	-	20	20	Dark measurement started.
10:00:43.84	USH	-	-	40	40	Dark measurement started.
10:00:44.62	LSH	-	-	40	40	Manual scene recording started.
10:00:44.62	SWS	-	-	20	20	Manual scene recording started.
10:00:45.00	USH	-	-	40	40	Manual scene recording started.
10:02:49.41	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:04:36.94	---	-	-	-	-	*** start of run 3 at FL 210
10:04:43.47	SWS	-0.0	-	-	-	Telescope at scan limit - going to 55.0
10:04:43.90	SWS	2.0	-	-	-	Telescope sent to -50.000
10:04:48.56	SWS	52.3	-	-	-	Telescope at scan limit - going to -50.0
10:04:49.26	SWS	44.0	-	-	-	Telescope at scan limit - going to -50.0
10:04:49.99	SWS	35.3	-	-	-	Telescope at scan limit - going to -50.0
10:04:50.73	SWS	26.4	-	-	-	Telescope at scan limit - going to -50.0
10:04:51.46	SWS	17.5	-	-	-	Telescope at scan limit - going to -50.0
10:04:52.20	SWS	8.8	-	-	-	Telescope at scan limit - going to -50.0
10:04:52.93	SWS	-0.0	-	-	-	Telescope at scan limit - going to 55.0
10:04:53.66	SWS	-8.7	-	-	-	Telescope at scan limit - going to 55.0
10:04:54.38	SWS	-17.5	-	-	-	Telescope at scan limit - going to 55.0
10:04:55.13	SWS	-26.3	-	-	-	Telescope at scan limit - going to 55.0
10:04:55.70	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:04:55.88	SWS	-35.2	-	-	-	Telescope at scan limit - going to 55.0
10:04:56.60	SWS	-44.1	-	-	-	Telescope at scan limit - going to 55.0
10:04:57.35	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:05:06.60	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:05:14.22	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:05:15.86	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:05:25.15	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:05:32.71	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:05:34.44	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:05:43.70	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:05:45.65	---	-	-	-	-	*** saturating and stray ref from -30 to -45
10:05:51.27	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:05:52.94	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:06:02.16	SWS	55.0	-	-	-	Telescope at scan limit - going to -30.0
10:06:09.70	SWS	-30.0	-	-	-	Telescope at scan limit - going to 55.0
10:06:17.30	SWS	55.0	-	-	-	Telescope at scan limit - going to -30.0
10:06:24.80	SWS	-30.0	-	-	-	Telescope at scan limit - going to 55.0
10:06:26.87	---	-	-	-	-	*** altered settings so only scan to -30 top avoid bad data
10:06:32.31	SWS	55.0	-	-	-	Telescope at scan limit - going to -30.0
10:06:39.90	SWS	-30.0	-	-	-	Telescope at scan limit - going to 55.0
10:06:41.16	---	-	-	-	-	*** changing to -29 as still dodgy to -30
10:06:47.46	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:06:53.89	SWS	-19.0	-	-	-	Telescope at scan limit - going to 55.0
10:07:00.85	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:07:07.33	SWS	-19.2	-	-	-	Telescope at scan limit - going to 55.0
10:07:14.31	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:07:21.30	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:07:28.24	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:07:34.70	SWS	-19.3	-	-	-	Telescope at scan limit - going to 55.0
10:07:41.15	SWS	54.0	-	-	-	Telescope at scan limit - going to -20.0
10:07:47.72	SWS	-20.1	-	-	-	Telescope at scan limit - going to 55.0
10:07:54.15	SWS	53.8	-	-	-	Telescope at scan limit - going to -20.0
10:08:01.11	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:08:08.03	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:08:14.98	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:08:21.43	SWS	54.1	-	-	-	Telescope at scan limit - going to -20.0
10:08:28.42	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:08:35.44	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:08:42.44	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0

10:08:49.37	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:08:56.35	SWS	-20.1	-	-	-	Telescope at scan limit - going to 55.0
10:09:03.30	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:09:09.73	SWS	-18.8	-	-	-	Telescope at scan limit - going to 55.0
10:09:16.21	SWS	54.3	-	-	-	Telescope at scan limit - going to -20.0
10:09:23.22	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:09:30.13	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:09:36.58	SWS	-19.1	-	-	-	Telescope at scan limit - going to 55.0
10:09:43.57	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:09:50.01	SWS	-19.1	-	-	-	Telescope at scan limit - going to 55.0
10:09:56.96	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:10:03.38	SWS	-18.9	-	-	-	Telescope at scan limit - going to 55.0
10:10:10.33	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:10:16.86	SWS	-20.1	-	-	-	Telescope at scan limit - going to 55.0
10:10:23.83	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:10:30.30	SWS	-19.3	-	-	-	Telescope at scan limit - going to 55.0
10:10:37.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:10:44.30	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:10:50.82	SWS	54.8	-	-	-	Telescope at scan limit - going to -20.0
10:10:57.28	SWS	-19.1	-	-	-	Telescope at scan limit - going to 55.0
10:11:03.70	SWS	54.0	-	-	-	Telescope at scan limit - going to -20.0
10:11:10.13	SWS	-18.8	-	-	-	Telescope at scan limit - going to 55.0
10:11:16.67	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:11:23.61	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:11:30.43	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:11:37.42	SWS	-20.1	-	-	-	Telescope at scan limit - going to 55.0
10:11:44.32	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:11:51.31	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:11:58.29	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:12:05.24	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:12:11.67	SWS	53.7	-	-	-	Telescope at scan limit - going to -20.0
10:12:18.67	SWS	-20.1	-	-	-	Telescope at scan limit - going to 55.0
10:12:25.56	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:12:32.55	SWS	-20.1	-	-	-	Telescope at scan limit - going to 55.0
10:12:38.99	SWS	53.9	-	-	-	Telescope at scan limit - going to -20.0
10:12:45.49	SWS	-19.6	-	-	-	Telescope at scan limit - going to 55.0
10:12:52.46	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:12:58.91	SWS	-19.0	-	-	-	Telescope at scan limit - going to 55.0
10:13:05.84	SWS	55.0	-	-	-	Telescope at scan limit - going to -20.0
10:13:12.80	SWS	-20.0	-	-	-	Telescope at scan limit - going to 55.0
10:13:19.28	SWS	53.9	-	-	-	Telescope at scan limit - going to -20.0
10:13:25.71	SWS	-18.9	-	-	-	Telescope at scan limit - going to 55.0
10:13:32.17	SWS	54.0	-	-	-	Telescope at scan limit - going to -20.0
10:13:36.64	SWS	5.4	-	-	-	Telescope stopped.
10:13:43.26	SWS	5.4	-	-	-	Telescope sent to 0.000
10:13:59.08	---	-	-	-	-	*** run ended when telescope stopped
10:14:57.32	---	-	-	-	-	Reset shutters.
10:15:00.59	SWS	-	-	20	20	Dark measurement started.
10:15:00.69	LSH	-	-	40	40	Dark measurement started.
10:15:00.71	USH	-	-	40	40	Dark measurement started.
10:15:01.29	SWS	-	-	20	20	Manual scene recording started.
10:15:01.75	LSH	-	-	40	40	Manual scene recording started.
10:15:01.95	USH	-	-	40	40	Manual scene recording started.
10:15:03.26	SWS	-	-	20	20	Dark measurement started.
10:15:03.31	LSH	-	-	40	40	Dark measurement started.
10:15:03.40	USH	-	-	40	40	Dark measurement started.
10:15:03.91	SWS	-	-	20	20	Manual scene recording started.
10:15:04.37	LSH	-	-	40	40	Manual scene recording started.
10:15:04.60	USH	-	-	40	40	Manual scene recording started.
10:15:07.87	SWS	-	-	20	20	Dark measurement started.
10:15:07.92	LSH	-	-	40	40	Dark measurement started.
10:15:07.98	USH	-	-	40	40	Dark measurement started.
10:15:08.53	SWS	-	-	20	20	Manual scene recording started.
10:15:08.96	LSH	-	-	40	40	Manual scene recording started.
10:15:09.16	USH	-	-	40	40	Manual scene recording started.
10:17:56.29	SWS	0.0	-	-	-	Telescope sent to -50.000
10:18:00.94	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:18:04.82	---	-	-	-	-	*** run 4 at fl240
10:18:07.11	SWS	-	-	-	-	Warning: Clipping may be occurring.

10:18:10.23	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:18:12.38	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:18:19.45	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:18:25.65	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:18:28.79	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:18:30.98	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:18:38.11	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:18:44.26	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:18:47.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:18:49.52	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:18:52.07	---	-	-	-	-	*** bad data between 20 and 40
10:18:56.66	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:19:02.74	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:19:05.88	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:19:08.09	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:19:15.21	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:19:21.34	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:19:24.55	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:19:26.72	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:19:33.84	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:19:39.90	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:19:43.16	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:19:45.36	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:19:52.56	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:19:58.64	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:20:01.81	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:20:04.03	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:20:11.15	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:20:17.15	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:20:20.43	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:20:22.62	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:20:29.80	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:20:35.87	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:20:39.16	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:20:41.40	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:20:48.48	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:20:54.53	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:20:57.80	---	-	-	-	-	*** temp still 9.9 deg
10:20:57.81	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:21:00.12	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:21:07.18	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:21:13.11	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:21:14.81	USH	-	-	40	40	Dark measurement started.
10:21:14.82	SWS	-	-	20	20	Dark measurement started.
10:21:14.87	LSH	-	-	40	40	Dark measurement started.
10:21:15.70	SWS	-	-	20	20	Manual scene recording started.
10:21:15.75	USH	-	-	40	40	Manual scene recording started.
10:21:16.17	LSH	-	-	40	40	Manual scene recording started.
10:21:16.58	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:21:18.89	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:21:25.89	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:21:31.92	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:21:35.23	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:21:37.50	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:21:40.08	---	-	-	-	-	*** 10 deg
10:21:44.52	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:21:50.26	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:21:53.87	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:21:56.13	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:22:03.16	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:22:08.98	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:22:12.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:22:14.96	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:22:21.89	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:22:27.75	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:22:31.20	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:22:33.67	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:22:40.54	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:22:46.42	SWS	-	-	-	-	Warning: Clipping may be occurring.

10:22:49.94	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:22:52.39	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:22:59.25	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:23:05.12	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:23:08.51	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:23:10.78	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:23:17.84	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:23:24.04	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:23:27.18	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:23:29.39	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:23:36.57	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:23:42.76	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:23:45.87	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:23:48.11	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:23:55.24	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:24:01.42	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:24:01.69	---	-	-	-	-	*** 10.1 deg
10:24:04.61	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:24:06.88	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:24:13.96	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:24:20.15	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:24:23.26	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:24:25.50	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:24:32.69	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:24:38.92	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:24:42.03	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:24:44.41	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:24:51.37	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:24:57.28	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:25:00.67	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:25:02.98	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:25:10.03	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:25:16.33	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:25:19.45	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:25:21.76	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:25:28.83	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:25:34.76	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:25:38.21	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:25:40.48	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:25:47.56	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:25:53.44	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:25:56.76	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:25:59.07	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:26:06.08	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:26:12.25	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:26:15.52	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:26:17.85	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:26:24.91	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:26:31.12	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:26:34.25	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:26:36.52	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:26:43.61	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:26:49.79	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:26:53.01	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:26:55.41	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:27:02.34	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:27:08.59	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:27:11.61	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:27:13.91	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:27:20.90	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:27:27.09	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:27:30.12	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:27:32.49	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:27:39.56	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:27:45.80	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:27:48.93	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:27:51.29	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:27:58.17	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:28:04.41	SWS	-	-	-	-	Warning: Clipping may be occurring.

10:28:07.48	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:28:09.84	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:28:16.83	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:28:26.17	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:28:28.55	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:28:35.46	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:28:41.67	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:28:44.87	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:28:47.17	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:28:54.16	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:29:00.40	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:29:03.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:29:05.80	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:29:12.69	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:29:18.54	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:29:22.10	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:29:22.61	SWS	53.0	-	-	-	Telescope stopped.
10:29:30.35	SWS	53.1	-	-	-	Telescope sent to 0.000
10:29:31.52	SWS	-0.0	-	-	-	Telescope stopped.
10:29:32.87	---	-	-	-	-	Reset shutters.
10:29:39.31	LSH	-	-	40	40	Dark measurement started.
10:29:39.36	SWS	-	-	20	20	Dark measurement started.
10:29:39.40	USH	-	-	40	40	Dark measurement started.
10:29:39.98	USH	-	-	40	40	Dark measurement started.
10:29:40.17	LSH	-	-	40	40	Manual scene recording started.
10:29:40.20	SWS	-	-	20	20	Manual scene recording started.
10:29:40.94	USH	-	-	-	-	Idling
10:29:41.36	USH	-	-	40	40	Dark measurement started.
10:29:41.41	LSH	-	-	40	40	Dark measurement started.
10:29:41.41	SWS	-	-	20	20	Dark measurement started.
10:29:42.28	USH	-	-	-	-	Idling
10:29:42.50	LSH	-	-	40	40	Manual scene recording started.
10:29:42.54	SWS	-	-	20	20	Manual scene recording started.
10:29:43.94	USH	-	-	40	40	Dark measurement started.
10:29:43.96	LSH	-	-	40	40	Dark measurement started.
10:29:44.02	SWS	-	-	20	20	Dark measurement started.
10:29:44.87	USH	-	-	-	-	Idling
10:29:45.05	LSH	-	-	40	40	Manual scene recording started.
10:29:45.13	SWS	-	-	20	20	Manual scene recording started.
10:29:47.56	USH	-	-	40	40	Manual scene recording started.
10:29:57.00	---	-	-	-	-	*** 10 deg
10:31:13.04	---	-	-	-	-	*** profile 5
10:31:58.90	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:32:04.11	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:32:54.97	---	-	-	-	-	Reset shutters.
10:32:58.40	SWS	-	-	20	20	Dark measurement started.
10:32:58.40	USH	-	-	40	40	Dark measurement started.
10:32:58.41	LSH	-	-	40	40	Dark measurement started.
10:32:59.04	SWS	-	-	20	20	Manual scene recording started.
10:32:59.56	USH	-	-	40	40	Manual scene recording started.
10:32:59.79	LSH	-	-	40	40	Manual scene recording started.
10:33:30.65	---	-	-	-	-	*** 10.1 deg
10:34:24.54	---	-	-	-	-	*** 10 deg
10:36:10.14	SWS	-0.0	-	-	-	Telescope sent to -50.000
10:36:13.19	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:36:14.78	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:36:15.94	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:36:22.78	---	-	-	-	-	*** run 5 at FL 280
10:36:24.18	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:36:33.48	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:36:42.77	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:36:52.18	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:36:54.36	---	-	-	-	-	*** bad data between -25 and -40
10:37:01.65	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:37:09.31	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:37:11.04	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:37:12.42	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:37:20.46	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:37:27.93	SWS	-	-	-	-	Warning: Clipping may be occurring.

10:37:29.90	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:37:31.16	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:37:39.32	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:37:46.89	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:37:48.73	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:37:50.04	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:37:58.10	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:38:05.56	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:38:07.41	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:38:08.66	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:38:16.71	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:38:24.26	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:38:26.05	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:38:27.43	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:38:35.38	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:38:42.93	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:38:44.79	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:38:54.09	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:39:03.37	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:39:12.71	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:39:22.10	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:39:31.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:39:40.88	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:39:50.28	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:39:59.59	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:40:08.97	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:40:18.38	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:40:27.78	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:40:37.12	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:40:46.41	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:40:53.66	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:40:55.86	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:40:56.91	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:41:05.21	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:41:12.44	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:41:14.61	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:41:15.70	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:41:23.99	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:41:31.29	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:41:33.28	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:41:34.44	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:41:42.70	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:41:49.95	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:41:52.08	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
10:41:53.31	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:42:01.52	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
10:42:08.82	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:42:10.86	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
10:42:12.18	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:42:19.99	SWS	55.0	-	-	-	Telescope stopped.
10:42:27.28	SWS	55.0	-	-	-	Telescope sent to 0.000
10:42:44.96	---	-	-	-	-	Reset shutters.
10:42:48.27	SWS	-	-	20	20	Dark measurement started.
10:42:48.28	USH	-	-	40	40	Dark measurement started.
10:42:48.34	LSH	-	-	40	40	Dark measurement started.
10:42:48.94	SWS	-	-	20	20	Manual scene recording started.
10:42:49.42	USH	-	-	40	40	Manual scene recording started.
10:42:49.63	LSH	-	-	40	40	Manual scene recording started.
10:42:56.26	USH	-	-	40	40	Dark measurement started.
10:42:56.27	SWS	-	-	20	20	Dark measurement started.
10:42:56.30	LSH	-	-	40	40	Dark measurement started.
10:42:56.97	LSH	-	-	40	40	Dark measurement started.
10:42:57.14	USH	-	-	40	40	Manual scene recording started.
10:42:57.22	SWS	-	-	20	20	Manual scene recording started.
10:42:57.88	LSH	-	-	-	-	Idling
10:44:10.70	LSH	-	-	40	40	Dark measurement started.
10:44:10.71	SWS	-	-	20	20	Dark measurement started.
10:44:10.74	USH	-	-	40	40	Dark measurement started.
10:44:11.37	SWS	-	-	20	20	Manual scene recording started.

10:44:11.83	LSH	-	-	-	-	Idling
10:44:12.03	USH	-	-	40	40	Manual scene recording started.
10:44:15.04	SWS	-	-	40	-	VIS int.time changed from 20ms to 40ms.
10:44:15.05	SWS	-	-	-	40	NIR int.time changed from 20ms to 40ms.
10:44:16.47	SWS	-	-	40	40	Dark measurement started.
10:44:17.33	SWS	-	-	40	40	Manual scene recording started.
10:44:18.42	SWS	-	-	40	40	Dark measurement started.
10:44:19.27	SWS	-	-	40	40	Manual scene recording started.
10:44:20.84	SWS	-	-	40	40	Dark measurement started.
10:44:21.71	SWS	-	-	40	40	Manual scene recording started.
10:44:23.48	LSH	-	-	40	40	Dark measurement started.
10:44:23.51	USH	-	-	40	40	Dark measurement started.
10:44:23.55	SWS	-	-	40	40	Dark measurement started.
10:44:24.34	LSH	-	-	-	-	Idling
10:44:24.58	USH	-	-	40	40	Manual scene recording started.
10:44:24.81	SWS	-	-	40	40	Manual scene recording started.
10:44:26.65	LSH	-	-	40	40	Dark measurement started.
10:44:26.76	USH	-	-	40	40	Dark measurement started.
10:44:26.79	SWS	-	-	40	40	Dark measurement started.
10:44:27.55	LSH	-	-	-	-	Idling
10:44:27.73	USH	-	-	40	40	Manual scene recording started.
10:44:27.98	SWS	-	-	40	40	Manual scene recording started.
10:44:29.08	LSH	-	-	40	40	Dark measurement started.
10:44:29.18	SWS	-	-	40	40	Dark measurement started.
10:44:29.20	USH	-	-	40	40	Dark measurement started.
10:44:29.93	LSH	-	-	-	-	Idling
10:44:30.17	SWS	-	-	40	40	Manual scene recording started.
10:44:30.41	USH	-	-	40	40	Manual scene recording started.
10:44:30.92	LSH	-	-	40	40	Manual scene recording started.
10:48:46.78	---	-	-	-	-	*** short high level run
10:48:52.75	---	-	-	-	-	*** run 6
10:50:53.22	SWS	-	-	40	40	Dark measurement started.
10:50:53.31	USH	-	-	40	40	Dark measurement started.
10:50:53.32	LSH	-	-	40	40	Dark measurement started.
10:50:53.90	LSH	-	-	40	40	Dark measurement started.
10:50:54.07	SWS	-	-	40	40	Manual scene recording started.
10:50:54.33	USH	-	-	40	40	Manual scene recording started.
10:50:54.81	LSH	-	-	-	-	Idling
10:50:56.46	LSH	-	-	40	40	Manual scene recording started.
10:51:07.17	---	-	-	-	-	*** end of run
10:51:26.99	---	-	-	-	-	*** orbit 1 40 deg to the right
10:51:43.06	---	-	-	-	-	*** heading 350
10:51:52.18	SWS	-	-	-	-	Warning: Clipping may be occurring.
10:53:56.10	---	-	-	-	-	*** end of orbit 1
10:54:07.12	---	-	-	-	-	***
10:54:07.17	SWS	-	-	-	-	Idling
10:54:08.40	SWS	-	-	40	40	Dark measurement started.
10:54:09.37	SWS	-	-	-	-	Idling
10:54:10.10	SWS	-	-	40	40	Manual scene recording started.
10:54:12.48	SWS	-	-	20	-	VIS int.time changed from 40ms to 20ms.
10:54:12.50	SWS	-	-	-	20	NIR int.time changed from 40ms to 20ms.
10:54:14.79	SWS	-	-	10	-	VIS int.time changed from 20ms to 10ms.
10:54:14.80	SWS	-	-	-	10	NIR int.time changed from 20ms to 10ms.
10:54:19.45	---	-	-	-	-	*** orbt 2
10:54:29.28	---	-	-	-	-	*** 40 deg headinbg 030
10:54:37.22	---	-	-	-	-	*** to the right again
10:56:39.60	---	-	-	-	-	*** end of orbit 2
10:56:42.92	SWS	-	-	10	10	Dark measurement started.
10:56:43.50	SWS	-	-	10	10	Manual scene recording started.
10:56:44.82	---	-	-	-	-	Reset shutters.
10:56:49.05	SWS	-	-	10	10	Dark measurement started.
10:56:49.06	LSH	-	-	40	40	Dark measurement started.
10:56:49.09	USH	-	-	40	40	Dark measurement started.
10:56:49.86	SWS	-	-	10	10	Manual scene recording started.
10:56:49.95	LSH	-	-	40	40	Manual scene recording started.
10:56:50.39	USH	-	-	40	40	Manual scene recording started.
10:56:52.81	SWS	-	-	40	-	VIS int.time changed from 10ms to 40ms.
10:56:52.82	SWS	-	-	-	40	NIR int.time changed from 10ms to 40ms.
10:56:54.07	SWS	-	-	40	40	Dark measurement started.

10:56:54.98	SWS	-	-	40	40	Manual scene recording started.
10:56:56.48	SWS	-	-	40	40	Dark measurement started.
10:56:56.56	LSH	-	-	40	40	Dark measurement started.
10:56:56.57	USH	-	-	40	40	Dark measurement started.
10:56:57.38	SWS	-	-	40	40	Manual scene recording started.
10:56:57.60	USH	-	-	40	40	Manual scene recording started.
10:56:57.83	LSH	-	-	40	40	Manual scene recording started.
10:57:26.73	---	-	-	-	-	*** spiral descent to the left
10:59:18.66	SWS	-	-	40	40	Dark measurement started.
10:59:19.59	SWS	-	-	40	40	Manual scene recording started.
10:59:23.49	SWS	-	-	40	40	Dark measurement started.
10:59:24.37	SWS	-	-	40	40	Manual scene recording started.
11:01:08.56	---	-	-	-	-	Reset shutters.
11:01:12.77	SWS	-	-	40	40	Dark measurement started.
11:01:12.82	LSH	-	-	40	40	Dark measurement started.
11:01:12.85	USH	-	-	40	40	Dark measurement started.
11:01:13.44	USH	-	-	40	40	Dark measurement started.
11:01:13.68	SWS	-	-	40	40	Manual scene recording started.
11:01:13.92	LSH	-	-	40	40	Manual scene recording started.
11:01:14.43	USH	-	-	-	-	Idling
11:01:15.31	USH	-	-	40	40	Dark measurement started.
11:01:15.32	LSH	-	-	40	40	Dark measurement started.
11:01:15.41	SWS	-	-	40	40	Dark measurement started.
11:01:16.23	USH	-	-	-	-	Idling
11:01:16.46	LSH	-	-	40	40	Manual scene recording started.
11:01:16.63	SWS	-	-	40	40	Manual scene recording started.
11:01:17.59	USH	-	-	40	40	Manual scene recording started.
11:04:24.96	SWS	-	-	-	-	Warning: Clipping may be occurring.
11:04:34.08	---	-	-	-	-	*** stray ref
11:04:46.34	---	-	-	-	-	*** back to
11:04:50.38	---	-	-	-	-	*** normal
11:04:56.45	---	-	-	-	-	Reset shutters.
11:05:00.24	SWS	-	-	40	40	Dark measurement started.
11:05:00.35	LSH	-	-	40	40	Dark measurement started.
11:05:00.37	USH	-	-	40	40	Dark measurement started.
11:05:01.09	SWS	-	-	40	40	Manual scene recording started.
11:05:01.42	LSH	-	-	40	40	Manual scene recording started.
11:05:01.54	USH	-	-	40	40	Manual scene recording started.
11:05:05.50	USH	-	-	40	40	Dark measurement started.
11:05:05.51	SWS	-	-	40	40	Dark measurement started.
11:05:05.52	LSH	-	-	40	40	Dark measurement started.
11:05:06.41	USH	-	-	40	40	Manual scene recording started.
11:05:06.62	SWS	-	-	40	40	Manual scene recording started.
11:05:06.85	LSH	-	-	40	40	Manual scene recording started.
11:05:33.83	---	-	-	-	-	*** cool box 10.2 deg
11:10:26.15	---	-	-	-	-	*** stray refle
11:10:48.00	---	-	-	-	-	***
11:10:48.97	SWS	-	-	30	-	VIS int.time changed from 40ms to 30ms.
11:10:48.98	SWS	-	-	-	30	NIR int.time changed from 40ms to 30ms.
11:10:50.09	SWS	-	-	30	30	Dark measurement started.
11:10:50.86	SWS	-	-	30	30	Manual scene recording started.
11:10:51.58	SWS	-	-	30	30	Dark measurement started.
11:10:52.40	SWS	-	-	30	30	Manual scene recording started.
11:11:10.13	---	-	-	-	-	*** orbit 3 to the right
11:11:14.84	---	-	-	-	-	*** hdg 240
11:13:06.02	---	-	-	-	-	*** end of orbit 3
11:13:24.94	---	-	-	-	-	*** orbit 4 to right
11:13:30.47	---	-	-	-	-	*** heading 270
11:15:17.49	---	-	-	-	-	*** end of orbit
11:15:31.87	SWS	-	-	-	-	Warning: Clipping may be occurring.
11:15:42.00	SWS	-	-	30	30	Dark measurement started.
11:15:42.77	SWS	-	-	30	30	Manual scene recording started.
11:15:44.57	---	-	-	-	-	Reset shutters.
11:15:48.25	USH	-	-	40	40	Dark measurement started.
11:15:48.33	LSH	-	-	40	40	Dark measurement started.
11:15:48.35	SWS	-	-	30	30	Dark measurement started.
11:15:48.74	LSH	-	-	40	40	Dark measurement started.
11:15:48.92	SWS	-	-	30	30	Dark measurement started.
11:15:49.11	USH	-	-	40	40	Manual scene recording started.

11:15:49.75	LSH	-	-	-	-	Idling
11:15:49.85	SWS	-	-	-	-	Idling
11:15:50.70	LSH	-	-	40	40	Dark measurement started.
11:15:50.70	SWS	-	-	30	30	Dark measurement started.
11:15:50.77	USH	-	-	40	40	Dark measurement started.
11:15:51.59	LSH	-	-	-	-	Idling
11:15:51.69	SWS	-	-	-	-	Idling
11:15:52.00	USH	-	-	40	40	Manual scene recording started.
11:15:52.59	SWS	-	-	30	30	Dark measurement started.
11:15:52.60	LSH	-	-	40	40	Dark measurement started.
11:15:52.71	USH	-	-	40	40	Dark measurement started.
11:15:53.42	SWS	-	-	-	-	Idling
11:15:53.72	LSH	-	-	-	-	Idling
11:15:53.93	USH	-	-	40	40	Manual scene recording started.
11:15:54.28	SWS	-	-	30	30	Manual scene recording started.
11:15:54.34	LSH	-	-	40	40	Manual scene recording started.
11:20:58.67	---	-	-	-	-	*** run 7 at FL 150
11:21:02.11	SWS	-0.0	-	-	-	Telescope at scan limit - going to 55.0
11:21:02.51	SWS	1.6	-	-	-	Telescope sent to -50.000
11:21:07.18	SWS	52.8	-	-	-	Telescope at scan limit - going to -50.0
11:21:07.88	SWS	44.4	-	-	-	Telescope at scan limit - going to -50.0
11:21:08.56	SWS	36.3	-	-	-	Telescope at scan limit - going to -50.0
11:21:09.34	SWS	27.1	-	-	-	Telescope at scan limit - going to -50.0
11:21:10.08	SWS	18.0	-	-	-	Telescope at scan limit - going to -50.0
11:21:10.83	SWS	9.0	-	-	-	Telescope at scan limit - going to -50.0
11:21:11.54	SWS	0.3	-	-	-	Telescope at scan limit - going to 55.0
11:21:12.33	SWS	-8.6	-	-	-	Telescope at scan limit - going to 55.0
11:21:13.07	SWS	-17.9	-	-	-	Telescope at scan limit - going to 55.0
11:21:13.83	SWS	-27.0	-	-	-	Telescope at scan limit - going to 55.0
11:21:14.55	SWS	-35.6	-	-	-	Telescope at scan limit - going to 55.0
11:21:15.31	SWS	-44.6	-	-	-	Telescope at scan limit - going to 55.0
11:21:16.05	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:21:25.56	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:21:35.03	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:21:43.08	SWS	-	-	30	30	Dark measurement started.
11:21:43.87	SWS	-	-	30	30	Manual scene recording started.
11:21:44.02	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
11:21:45.95	SWS	-	-	40	-	VIS int.time changed from 30ms to 40ms.
11:21:45.96	SWS	-	-	-	40	NIR int.time changed from 30ms to 40ms.
11:21:47.31	SWS	-	-	40	40	Dark measurement started.
11:21:48.19	SWS	-	-	40	40	Manual scene recording started.
11:21:49.18	SWS	-	-	40	40	Dark measurement started.
11:21:50.04	SWS	-	-	40	40	Manual scene recording started.
11:21:53.06	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:22:02.46	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:22:11.95	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:22:21.36	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:22:30.86	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:22:40.29	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:22:49.77	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:22:59.13	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:23:08.56	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:23:18.05	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:23:27.01	SWS	-49.1	-	-	-	Telescope at scan limit - going to 55.0
11:23:36.43	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:23:45.94	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:23:51.19	---	-	-	-	-	*** over snow
11:23:55.38	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:24:04.78	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:24:14.25	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:24:15.73	---	-	-	-	-	*** over land/rock
11:24:23.68	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:24:33.18	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:24:42.65	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:24:52.10	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:25:01.50	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:25:10.97	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:25:20.44	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:25:29.94	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0

11:25:39.46	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:25:48.94	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:25:58.40	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:26:07.35	SWS	54.0	-	-	-	Telescope at scan limit - going to -50.0
11:26:16.79	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:26:26.14	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:26:35.62	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:26:44.56	SWS	53.8	-	-	-	Telescope at scan limit - going to -50.0
11:26:54.04	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:27:02.99	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
11:27:11.93	SWS	-49.0	-	-	-	Telescope at scan limit - going to 55.0
11:27:20.94	SWS	54.6	-	-	-	Telescope at scan limit - going to -50.0
11:27:29.88	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
11:27:38.92	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:27:47.86	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
11:27:57.36	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:28:06.32	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
11:28:15.32	SWS	54.2	-	-	-	Telescope at scan limit - going to -50.0
11:28:24.81	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:28:34.25	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:28:43.76	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:28:53.21	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:29:02.71	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:29:12.15	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:29:21.11	SWS	-48.9	-	-	-	Telescope at scan limit - going to 55.0
11:29:30.62	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:29:40.06	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:29:49.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:29:59.02	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:30:07.95	SWS	53.7	-	-	-	Telescope at scan limit - going to -50.0
11:30:17.42	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:30:26.84	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:30:35.78	SWS	-49.1	-	-	-	Telescope at scan limit - going to 55.0
11:30:45.21	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:30:54.69	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:31:03.62	SWS	53.7	-	-	-	Telescope at scan limit - going to -50.0
11:31:12.65	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
11:31:22.16	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:31:31.69	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:31:41.10	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:31:50.10	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
11:31:59.59	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:32:09.03	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:32:18.51	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:32:27.92	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
11:32:37.38	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:32:46.87	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:32:52.06	---	-	-	-	-	*** end of run
11:32:54.61	SWS	38.4	-	-	-	Telescope stopped.
11:33:06.44	SWS	38.4	-	-	-	Telescope sent to 0.000
11:33:09.18	---	-	-	-	-	Reset shutters.
11:33:12.49	LSH	-	-	40	40	Dark measurement started.
11:33:12.50	USH	-	-	40	40	Dark measurement started.
11:33:12.56	SWS	-	-	40	40	Dark measurement started.
11:33:13.46	LSH	-	-	40	40	Manual scene recording started.
11:33:13.69	USH	-	-	40	40	Manual scene recording started.
11:33:13.88	SWS	-	-	40	40	Manual scene recording started.
11:33:15.48	LSH	-	-	40	40	Dark measurement started.
11:33:15.51	USH	-	-	40	40	Dark measurement started.
11:33:15.52	SWS	-	-	40	40	Dark measurement started.
11:33:15.78	LSH	-	-	40	40	Dark measurement started.
11:33:15.98	USH	-	-	40	40	Dark measurement started.
11:33:16.19	SWS	-	-	40	40	Dark measurement started.
11:33:17.00	LSH	-	-	-	-	Idling
11:33:17.24	USH	-	-	-	-	Idling
11:33:17.50	SWS	-	-	-	-	Idling
11:33:18.47	USH	-	-	40	40	Dark measurement started.
11:33:18.48	SWS	-	-	40	40	Dark measurement started.
11:33:18.49	LSH	-	-	40	40	Dark measurement started.

11:33:19.36	USH	-	-	-	-	Idling
11:33:19.61	SWS	-	-	-	-	Idling
11:33:19.84	LSH	-	-	-	-	Idling
11:33:20.66	SWS	-	-	40	40	Manual scene recording started.
11:33:20.67	LSH	-	-	40	40	Manual scene recording started.
11:33:20.67	USH	-	-	40	40	Manual scene recording started.
11:34:09.18	SWS	-	-	40	40	Dark measurement started.
11:34:09.21	LSH	-	-	40	40	Dark measurement started.
11:34:09.23	USH	-	-	40	40	Dark measurement started.
11:34:10.09	SWS	-	-	40	40	Manual scene recording started.
11:34:10.38	LSH	-	-	40	40	Manual scene recording started.
11:34:10.59	USH	-	-	40	40	Manual scene recording started.
11:34:11.56	LSH	-	-	40	40	Dark measurement started.
11:34:11.64	USH	-	-	40	40	Dark measurement started.
11:34:11.67	SWS	-	-	40	40	Dark measurement started.
11:34:12.44	LSH	-	-	40	40	Manual scene recording started.
11:34:12.65	USH	-	-	40	40	Manual scene recording started.
11:34:12.89	SWS	-	-	40	40	Manual scene recording started.
11:34:38.62	---	-	-	-	-	*** profile 7
11:35:08.47	SWS	-	-	-	-	Warning: Clipping may be occurring.
11:35:10.54	SWS	-	-	40	40	Dark measurement started.
11:35:11.39	SWS	-	-	40	40	Manual scene recording started.
11:35:12.96	SWS	-	-	40	40	Dark measurement started.
11:35:13.83	SWS	-	-	40	40	Manual scene recording started.
11:35:14.78	SWS	-	-	40	40	Dark measurement started.
11:35:15.65	SWS	-	-	40	40	Manual scene recording started.
11:35:22.66	SWS	-	-	40	40	Dark measurement started.
11:35:23.55	SWS	-	-	40	40	Manual scene recording started.
11:35:29.58	SWS	-	-	40	40	Dark measurement started.
11:35:30.44	SWS	-	-	40	40	Manual scene recording started.
11:35:31.69	SWS	-	-	40	40	Dark measurement started.
11:35:32.58	SWS	-	-	40	40	Manual scene recording started.
11:35:34.06	SWS	-	-	40	40	Dark measurement started.
11:35:34.95	SWS	-	-	40	40	Manual scene recording started.
11:35:37.87	---	-	-	-	-	Reset shutters.
11:35:41.47	USH	-	-	40	40	Dark measurement started.
11:35:41.53	SWS	-	-	40	40	Dark measurement started.
11:35:41.56	LSH	-	-	40	40	Dark measurement started.
11:35:42.15	LSH	-	-	40	40	Dark measurement started.
11:35:42.32	USH	-	-	40	40	Manual scene recording started.
11:35:42.55	SWS	-	-	40	40	Manual scene recording started.
11:35:43.09	LSH	-	-	-	-	Idling
11:35:44.27	LSH	-	-	40	40	Dark measurement started.
11:35:44.37	SWS	-	-	40	40	Dark measurement started.
11:35:44.51	USH	-	-	40	40	Dark measurement started.
11:35:45.20	LSH	-	-	-	-	Idling
11:35:45.45	SWS	-	-	40	40	Manual scene recording started.
11:35:45.63	USH	-	-	40	40	Manual scene recording started.
11:35:47.21	LSH	-	-	40	40	Dark measurement started.
11:35:47.25	USH	-	-	40	40	Dark measurement started.
11:35:47.31	SWS	-	-	40	40	Dark measurement started.
11:35:48.10	LSH	-	-	-	-	Idling
11:35:48.33	USH	-	-	40	40	Manual scene recording started.
11:35:48.60	SWS	-	-	40	40	Manual scene recording started.
11:35:49.23	LSH	-	-	40	40	Manual scene recording started.
11:35:52.72	SWS	-	-	40	40	Dark measurement started.
11:35:52.77	USH	-	-	40	40	Dark measurement started.
11:35:52.77	LSH	-	-	40	40	Dark measurement started.
11:35:53.44	LSH	-	-	40	40	Dark measurement started.
11:35:53.61	SWS	-	-	40	40	Manual scene recording started.
11:35:53.87	USH	-	-	40	40	Manual scene recording started.
11:35:54.38	LSH	-	-	-	-	Idling
11:35:55.90	LSH	-	-	40	40	Dark measurement started.
11:35:55.93	SWS	-	-	40	40	Dark measurement started.
11:35:56.03	USH	-	-	40	40	Dark measurement started.
11:35:56.79	LSH	-	-	-	-	Idling
11:35:57.02	SWS	-	-	40	40	Manual scene recording started.
11:35:57.25	USH	-	-	40	40	Manual scene recording started.
11:35:58.65	LSH	-	-	40	40	Manual scene recording started.

11:38:00.06	SWS	-	-	40	40	Dark measurement started.
11:38:00.09	USH	-	-	40	40	Dark measurement started.
11:38:00.14	LSH	-	-	40	40	Dark measurement started.
11:38:00.96	SWS	-	-	40	40	Manual scene recording started.
11:38:01.16	USH	-	-	40	40	Manual scene recording started.
11:38:01.38	LSH	-	-	40	40	Manual scene recording started.
11:39:58.94	SWS	-	-	40	40	Dark measurement started.
11:39:58.95	LSH	-	-	40	40	Dark measurement started.
11:39:58.98	USH	-	-	40	40	Dark measurement started.
11:39:59.89	SWS	-	-	40	40	Manual scene recording started.
11:40:00.08	LSH	-	-	40	40	Manual scene recording started.
11:40:00.29	USH	-	-	40	40	Manual scene recording started.
11:40:01.76	USH	-	-	40	40	Dark measurement started.
11:40:01.79	LSH	-	-	40	40	Dark measurement started.
11:40:01.82	SWS	-	-	40	40	Dark measurement started.
11:40:02.67	USH	-	-	40	40	Manual scene recording started.
11:40:02.88	LSH	-	-	40	40	Manual scene recording started.
11:40:03.04	SWS	-	-	40	40	Manual scene recording started.
11:40:08.14	---	-	-	-	-	*** run
11:40:12.66	---	-	-	-	-	*** FL 160
11:40:17.20	SWS	0.0	-	-	-	Telescope at scan limit - going to 55.0
11:40:17.60	SWS	1.8	-	-	-	Telescope sent to -50.000
11:40:22.30	SWS	52.2	-	-	-	Telescope at scan limit - going to -50.0
11:40:23.00	SWS	43.8	-	-	-	Telescope at scan limit - going to -50.0
11:40:23.76	SWS	34.7	-	-	-	Telescope at scan limit - going to -50.0
11:40:24.48	SWS	25.9	-	-	-	Telescope at scan limit - going to -50.0
11:40:25.22	SWS	17.2	-	-	-	Telescope at scan limit - going to -50.0
11:40:25.97	SWS	8.2	-	-	-	Telescope at scan limit - going to -50.0
11:40:26.71	SWS	-0.8	-	-	-	Telescope at scan limit - going to 55.0
11:40:27.48	SWS	-9.8	-	-	-	Telescope at scan limit - going to 55.0
11:40:28.22	SWS	-18.9	-	-	-	Telescope at scan limit - going to 55.0
11:40:28.95	SWS	-27.6	-	-	-	Telescope at scan limit - going to 55.0
11:40:29.73	SWS	-36.9	-	-	-	Telescope at scan limit - going to 55.0
11:40:30.52	SWS	-45.9	-	-	-	Telescope at scan limit - going to 55.0
11:40:31.27	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:40:40.73	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:40:50.22	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:40:59.19	SWS	54.0	-	-	-	Telescope at scan limit - going to -50.0
11:41:08.73	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:41:17.75	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
11:41:27.19	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:41:36.70	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:41:46.22	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:41:55.23	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
11:42:04.28	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:42:13.78	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:42:23.29	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:42:32.25	SWS	54.0	-	-	-	Telescope at scan limit - going to -50.0
11:42:41.71	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:42:50.63	SWS	53.7	-	-	-	Telescope at scan limit - going to -50.0
11:42:59.57	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
11:43:08.54	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
11:43:17.98	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:43:27.55	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:43:36.98	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:43:46.50	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:43:55.52	SWS	-49.5	-	-	-	Telescope at scan limit - going to 55.0
11:44:04.98	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:44:14.51	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:44:23.57	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:44:32.99	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:44:41.98	SWS	54.2	-	-	-	Telescope at scan limit - going to -50.0
11:44:51.49	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:45:01.01	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:45:10.53	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:45:20.00	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:45:29.48	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:45:38.50	SWS	54.6	-	-	-	Telescope at scan limit - going to -50.0
11:45:48.02	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0

11:45:57.06	SWS	54.9	-	-	-	Telescope at scan limit - going to -50.0
11:46:06.08	SWS	-49.7	-	-	-	Telescope at scan limit - going to 55.0
11:46:15.02	SWS	54.1	-	-	-	Telescope at scan limit - going to -50.0
11:46:23.97	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
11:46:33.49	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:46:42.51	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
11:46:51.90	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:47:00.94	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:47:09.96	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
11:47:19.41	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:47:28.40	SWS	54.6	-	-	-	Telescope at scan limit - going to -50.0
11:47:31.91	SWS	17.2	-	-	-	Telescope stopped.
11:47:41.56	SWS	17.2	-	-	-	Telescope sent to 0.000
11:47:44.64	---	-	-	-	-	Reset shutters.
11:47:47.90	LSH	-	-	40	40	Dark measurement started.
11:47:47.96	SWS	-	-	40	40	Dark measurement started.
11:47:47.99	USH	-	-	40	40	Dark measurement started.
11:47:48.85	LSH	-	-	40	40	Manual scene recording started.
11:47:49.08	SWS	-	-	40	40	Manual scene recording started.
11:47:49.22	USH	-	-	40	40	Manual scene recording started.
11:47:49.98	LSH	-	-	40	40	Dark measurement started.
11:47:49.98	SWS	-	-	40	40	Dark measurement started.
11:47:50.02	USH	-	-	40	40	Dark measurement started.
11:47:50.86	LSH	-	-	40	40	Manual scene recording started.
11:47:51.11	SWS	-	-	40	40	Manual scene recording started.
11:47:51.35	USH	-	-	40	40	Manual scene recording started.
11:47:52.77	SWS	-	-	40	40	Dark measurement started.
11:47:52.81	LSH	-	-	40	40	Dark measurement started.
11:47:52.82	USH	-	-	40	40	Dark measurement started.
11:47:53.68	SWS	-	-	40	40	Manual scene recording started.
11:47:53.88	LSH	-	-	40	40	Manual scene recording started.
11:47:54.13	USH	-	-	40	40	Manual scene recording started.
11:48:00.08	USH	-	-	40	40	Dark measurement started.
11:48:00.14	LSH	-	-	40	40	Dark measurement started.
11:48:00.20	SWS	-	-	40	40	Dark measurement started.
11:48:01.00	USH	-	-	40	40	Manual scene recording started.
11:48:01.26	LSH	-	-	40	40	Manual scene recording started.
11:48:01.45	SWS	-	-	40	40	Manual scene recording started.
11:49:41.60	---	-	-	-	-	*** profile 8
11:53:32.98	---	-	-	-	-	*** run 9 at FL 220
11:53:36.84	SWS	0.0	-	-	-	Telescope sent to -50.000
11:53:41.54	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:53:50.52	SWS	54.1	-	-	-	Telescope at scan limit - going to -50.0
11:54:00.02	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
11:54:09.53	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:54:18.98	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
11:54:28.40	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:54:37.34	SWS	-48.7	-	-	-	Telescope at scan limit - going to 55.0
11:54:46.82	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:54:55.88	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:55:04.92	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:55:14.40	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
11:55:23.88	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:55:32.86	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
11:55:42.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:55:51.28	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
11:56:00.37	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:56:09.32	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
11:56:18.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:56:27.47	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
11:56:36.91	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:56:45.85	SWS	-48.7	-	-	-	Telescope at scan limit - going to 55.0
11:56:54.82	SWS	54.0	-	-	-	Telescope at scan limit - going to -50.0
11:57:03.83	SWS	-49.7	-	-	-	Telescope at scan limit - going to 55.0
11:57:12.80	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
11:57:21.80	SWS	-49.1	-	-	-	Telescope at scan limit - going to 55.0
11:57:31.28	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:57:40.35	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:57:49.80	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0

11:57:59.34	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:58:08.86	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:58:17.81	SWS	-48.7	-	-	-	Telescope at scan limit - going to 55.0
11:58:26.76	SWS	53.9	-	-	-	Telescope at scan limit - going to -50.0
11:58:35.83	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:58:44.82	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
11:58:53.82	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
11:59:02.84	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
11:59:11.79	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
11:59:20.86	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:59:30.44	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:59:39.90	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
11:59:49.34	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
11:59:58.35	SWS	54.8	-	-	-	Telescope at scan limit - going to -50.0
12:00:07.28	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
12:00:15.51	---	-	-	-	-	Reset shutters.
12:00:16.36	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:00:19.20	LSH	-	-	40	40	Dark measurement started.
12:00:19.23	USH	-	-	40	40	Dark measurement started.
12:00:19.31	SWS	-	-	40	40	Dark measurement started.
12:00:20.09	LSH	-	-	40	40	Manual scene recording started.
12:00:20.33	USH	-	-	40	40	Manual scene recording started.
12:00:20.59	SWS	-	-	40	40	Manual scene recording started.
12:00:23.03	SWS	-	-	40	40	Dark measurement started.
12:00:23.04	LSH	-	-	40	40	Dark measurement started.
12:00:23.17	USH	-	-	40	40	Dark measurement started.
12:00:23.94	SWS	-	-	40	40	Manual scene recording started.
12:00:24.14	LSH	-	-	40	40	Manual scene recording started.
12:00:24.44	USH	-	-	40	40	Manual scene recording started.
12:00:25.49	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:00:27.23	LSH	-	-	40	40	Dark measurement started.
12:00:27.28	SWS	-	-	40	40	Dark measurement started.
12:00:27.35	USH	-	-	40	40	Dark measurement started.
12:00:28.15	LSH	-	-	40	40	Manual scene recording started.
12:00:28.32	SWS	-	-	40	40	Manual scene recording started.
12:00:28.57	USH	-	-	40	40	Manual scene recording started.
12:00:34.49	SWS	54.2	-	-	-	Telescope at scan limit - going to -50.0
12:00:43.45	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
12:00:52.46	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:00:52.92	SWS	-	-	50	-	VIS int.time changed from 40ms to 50ms.
12:00:52.93	SWS	-	-	-	50	NIR int.time changed from 40ms to 50ms.
12:00:54.99	SWS	-	-	50	50	Dark measurement started.
12:00:56.03	SWS	-	-	50	50	Manual scene recording started.
12:00:57.14	SWS	-	-	50	50	Dark measurement started.
12:00:58.11	SWS	-	-	50	50	Manual scene recording started.
12:01:01.54	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:01:10.55	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:01:19.54	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
12:01:28.55	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:01:37.56	SWS	-49.7	-	-	-	Telescope at scan limit - going to 55.0
12:01:47.04	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:01:56.57	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:02:05.61	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:02:14.64	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:02:24.15	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:02:33.13	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:02:42.13	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:02:51.66	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:03:00.66	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:03:09.60	SWS	-48.9	-	-	-	Telescope at scan limit - going to 55.0
12:03:18.66	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:03:27.67	SWS	-49.5	-	-	-	Telescope at scan limit - going to 55.0
12:03:37.20	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:03:42.37	SWS	-3.0	-	-	-	Telescope stopped.
12:03:48.75	SWS	-3.0	-	-	-	Telescope sent to 0.000
12:03:51.93	---	-	-	-	-	Reset shutters.
12:03:55.37	USH	-	-	40	40	Dark measurement started.
12:03:55.44	SWS	-	-	50	50	Dark measurement started.
12:03:55.48	LSH	-	-	40	40	Dark measurement started.

12:03:56.06	LSH	-	-	40	40	Dark measurement started.
12:03:56.24	USH	-	-	40	40	Manual scene recording started.
12:03:56.61	SWS	-	-	50	50	Manual scene recording started.
12:03:56.98	LSH	-	-	-	-	Idling
12:04:00.96	LSH	-	-	40	40	Dark measurement started.
12:04:01.00	SWS	-	-	50	50	Dark measurement started.
12:04:01.01	USH	-	-	40	40	Dark measurement started.
12:04:01.91	LSH	-	-	-	-	Idling
12:04:01.95	LSH	-	-	-	-	Idling
12:04:02.13	SWS	-	-	50	50	Manual scene recording started.
12:04:02.25	USH	-	-	40	40	Manual scene recording started.
12:04:04.67	LSH	-	-	40	40	Dark measurement started.
12:04:04.70	USH	-	-	40	40	Dark measurement started.
12:04:04.76	SWS	-	-	50	50	Dark measurement started.
12:04:05.56	LSH	-	-	-	-	Idling
12:04:05.78	USH	-	-	40	40	Manual scene recording started.
12:04:05.90	LSH	-	-	40	40	Dark measurement started.
12:04:06.04	SWS	-	-	50	50	Manual scene recording started.
12:04:06.15	USH	-	-	40	40	Dark measurement started.
12:04:06.90	LSH	-	-	-	-	Idling
12:04:07.19	SWS	-	-	50	50	Dark measurement started.
12:04:07.20	LSH	-	-	40	40	Dark measurement started.
12:04:07.42	USH	-	-	40	40	Manual scene recording started.
12:04:08.17	SWS	-	-	50	50	Manual scene recording started.
12:04:08.30	LSH	-	-	-	-	Idling
12:04:11.28	LSH	-	-	40	40	Manual scene recording started.
12:05:52.27	SWS	-	-	-	-	Warning: Clipping may be occurring.
12:06:06.85	SWS	-	-	50	50	Dark measurement started.
12:06:08.35	SWS	-	-	50	50	Manual scene recording started.
12:06:09.19	SWS	-	-	50	50	Dark measurement started.
12:06:10.18	SWS	-	-	50	50	Manual scene recording started.
12:06:12.54	SWS	-	-	50	50	Dark measurement started.
12:06:13.50	SWS	-	-	50	50	Manual scene recording started.
12:06:16.23	SWS	-	-	50	50	Dark measurement started.
12:06:17.20	SWS	-	-	50	50	Manual scene recording started.
12:06:21.11	SWS	-	-	50	50	Dark measurement started.
12:06:22.19	SWS	-	-	50	50	Manual scene recording started.
12:06:25.43	---	-	-	-	-	Reset shutters.
12:06:30.05	LSH	-	-	40	40	Dark measurement started.
12:06:30.15	SWS	-	-	50	50	Dark measurement started.
12:06:30.18	USH	-	-	40	40	Dark measurement started.
12:06:30.97	LSH	-	-	40	40	Manual scene recording started.
12:06:31.23	SWS	-	-	50	50	Manual scene recording started.
12:06:31.35	USH	-	-	40	40	Manual scene recording started.
12:08:07.96	---	-	-	-	-	*** run 10 fl 260
12:08:08.06	SWS	0.0	-	-	-	Telescope at scan limit - going to 55.0
12:08:08.52	SWS	2.1	-	-	-	Telescope sent to -50.000
12:08:08.87	SWS	5.3	-	-	-	Telescope stopped.
12:08:15.94	SWS	5.3	-	-	-	Telescope at scan limit - going to -50.0
12:08:16.37	SWS	3.2	-	-	-	Telescope sent to -50.000
12:08:21.16	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:08:30.14	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:08:39.72	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:08:48.65	SWS	53.7	-	-	-	Telescope at scan limit - going to -50.0
12:08:57.71	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:09:06.75	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:09:15.75	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:09:24.79	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:09:33.85	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:09:42.89	SWS	54.9	-	-	-	Telescope at scan limit - going to -50.0
12:09:51.89	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:10:00.88	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
12:10:09.84	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
12:10:18.80	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:10:27.90	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:10:36.97	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:10:45.98	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
12:10:54.97	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:11:03.92	SWS	-49.1	-	-	-	Telescope at scan limit - going to 55.0

12:11:12.97	SWS	54.9	-	-	-	Telescope at scan limit - going to -50.0
12:11:22.52	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:11:31.55	SWS	54.6	-	-	-	Telescope at scan limit - going to -50.0
12:11:40.56	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
12:11:50.05	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:11:59.03	SWS	-49.4	-	-	-	Telescope at scan limit - going to 55.0
12:12:07.99	SWS	53.9	-	-	-	Telescope at scan limit - going to -50.0
12:12:17.06	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:12:26.06	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
12:12:35.01	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
12:12:44.03	SWS	54.6	-	-	-	Telescope at scan limit - going to -50.0
12:12:53.06	SWS	-49.7	-	-	-	Telescope at scan limit - going to 55.0
12:13:02.02	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:13:10.98	SWS	-48.9	-	-	-	Telescope at scan limit - going to 55.0
12:13:20.06	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:13:29.06	SWS	-49.7	-	-	-	Telescope at scan limit - going to 55.0
12:13:38.08	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
12:13:47.04	SWS	-49.0	-	-	-	Telescope at scan limit - going to 55.0
12:13:56.04	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:14:05.01	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
12:14:05.03	---	-	-	-	-	*** cirus above
12:14:14.14	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:14:23.16	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
12:14:32.68	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:14:41.67	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:14:50.62	SWS	53.8	-	-	-	Telescope at scan limit - going to -50.0
12:14:59.70	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:15:08.68	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:15:17.64	SWS	-49.0	-	-	-	Telescope at scan limit - going to 55.0
12:15:26.76	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:15:35.81	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:15:45.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:15:54.35	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
12:16:03.47	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:16:12.49	SWS	-49.1	-	-	-	Telescope at scan limit - going to 55.0
12:16:21.50	SWS	54.6	-	-	-	Telescope at scan limit - going to -50.0
12:16:30.55	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:16:39.58	SWS	54.8	-	-	-	Telescope at scan limit - going to -50.0
12:16:45.43	SWS	-10.9	-	-	-	Telescope stopped.
12:16:54.56	SWS	-10.9	-	-	-	Telescope sent to 0.000
12:16:55.66	---	-	-	-	-	Reset shutters.
12:16:58.96	LSH	-	-	40	40	Dark measurement started.
12:16:58.98	USH	-	-	40	40	Dark measurement started.
12:16:58.99	SWS	-	-	50	50	Dark measurement started.
12:16:59.90	LSH	-	-	40	40	Manual scene recording started.
12:17:00.19	USH	-	-	40	40	Manual scene recording started.
12:17:00.40	SWS	-	-	50	50	Manual scene recording started.
12:19:42.76	---	-	-	-	-	*** run 11 at FL 300
12:19:58.14	---	-	-	-	-	*** run will start when telescope moves
12:22:04.70	SWS	0.0	-	-	-	Telescope at scan limit - going to 55.0
12:22:05.14	SWS	2.1	-	-	-	Telescope sent to -50.000
12:22:09.96	SWS	50.4	-	-	-	Telescope at scan limit - going to -50.0
12:22:10.69	SWS	41.6	-	-	-	Telescope at scan limit - going to -50.0
12:22:11.46	SWS	32.4	-	-	-	Telescope at scan limit - going to -50.0
12:22:12.23	SWS	23.4	-	-	-	Telescope at scan limit - going to -50.0
12:22:12.97	SWS	14.3	-	-	-	Telescope at scan limit - going to -50.0
12:22:13.73	SWS	5.2	-	-	-	Telescope at scan limit - going to -50.0
12:22:14.49	SWS	-3.9	-	-	-	Telescope at scan limit - going to 55.0
12:22:15.26	SWS	-13.1	-	-	-	Telescope at scan limit - going to 55.0
12:22:16.04	SWS	-22.6	-	-	-	Telescope at scan limit - going to 55.0
12:22:16.81	SWS	-31.7	-	-	-	Telescope at scan limit - going to 55.0
12:22:17.60	SWS	-40.8	-	-	-	Telescope at scan limit - going to 55.0
12:22:18.35	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:22:27.34	SWS	54.0	-	-	-	Telescope at scan limit - going to -50.0
12:22:36.32	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:22:45.40	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:22:54.39	SWS	-49.0	-	-	-	Telescope at scan limit - going to 55.0
12:23:03.59	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:23:12.69	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0

12:23:21.68	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:23:30.63	SWS	-48.9	-	-	-	Telescope at scan limit - going to 55.0
12:23:39.63	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:23:48.63	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
12:23:58.09	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:24:07.10	SWS	-49.8	-	-	-	Telescope at scan limit - going to 55.0
12:24:16.19	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:24:25.19	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:24:34.18	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
12:24:43.23	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:24:52.19	SWS	53.8	-	-	-	Telescope at scan limit - going to -50.0
12:25:01.17	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:25:10.23	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:25:19.27	SWS	-49.7	-	-	-	Telescope at scan limit - going to 55.0
12:25:28.80	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:25:38.21	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:25:47.25	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
12:25:56.30	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:26:05.26	SWS	54.2	-	-	-	Telescope at scan limit - going to -50.0
12:26:14.34	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:26:23.47	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:26:32.48	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
12:26:41.50	SWS	54.8	-	-	-	Telescope at scan limit - going to -50.0
12:26:50.46	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
12:26:59.59	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:27:08.60	SWS	-49.0	-	-	-	Telescope at scan limit - going to 55.0
12:27:17.64	SWS	54.8	-	-	-	Telescope at scan limit - going to -50.0
12:27:26.67	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:27:35.71	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
12:27:40.65	---	-	-	-	-	Reset shutters.
12:27:44.73	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:27:44.85	LSH	-	-	40	40	Dark measurement started.
12:27:44.96	SWS	-	-	50	50	Dark measurement started.
12:27:44.96	USH	-	-	40	40	Dark measurement started.
12:27:45.80	LSH	-	-	40	40	Manual scene recording started.
12:27:46.09	SWS	-	-	50	50	Manual scene recording started.
12:27:46.20	USH	-	-	40	40	Manual scene recording started.
12:27:52.94	LSH	-	-	40	40	Dark measurement started.
12:27:52.95	SWS	-	-	50	50	Dark measurement started.
12:27:53.00	USH	-	-	40	40	Dark measurement started.
12:27:53.82	LSH	-	-	40	40	Manual scene recording started.
12:27:53.87	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:27:54.21	SWS	-	-	50	50	Manual scene recording started.
12:27:54.26	USH	-	-	40	40	Manual scene recording started.
12:27:55.22	LSH	-	-	40	40	Dark measurement started.
12:27:55.27	USH	-	-	40	40	Dark measurement started.
12:27:55.33	SWS	-	-	50	50	Dark measurement started.
12:27:56.13	LSH	-	-	40	40	Manual scene recording started.
12:27:56.36	USH	-	-	40	40	Manual scene recording started.
12:27:56.67	SWS	-	-	50	50	Manual scene recording started.
12:27:58.25	SWS	-	-	50	50	Dark measurement started.
12:27:58.28	USH	-	-	40	40	Dark measurement started.
12:27:58.34	LSH	-	-	40	40	Dark measurement started.
12:27:58.98	LSH	-	-	40	40	Dark measurement started.
12:27:59.25	SWS	-	-	50	50	Manual scene recording started.
12:27:59.37	USH	-	-	40	40	Manual scene recording started.
12:27:59.93	LSH	-	-	-	-	Idling
12:28:02.65	LSH	-	-	40	40	Manual scene recording started.
12:28:03.05	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:28:12.08	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
12:28:21.17	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:28:30.70	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:28:39.71	SWS	-49.5	-	-	-	Telescope at scan limit - going to 55.0
12:28:48.76	SWS	54.9	-	-	-	Telescope at scan limit - going to -50.0
12:28:57.82	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:29:06.80	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:29:15.81	SWS	-49.5	-	-	-	Telescope at scan limit - going to 55.0
12:29:24.84	SWS	54.8	-	-	-	Telescope at scan limit - going to -50.0
12:29:33.87	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0

12:29:42.88	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
12:29:51.93	SWS	-49.8	-	-	-	Telescope at scan limit - going to 55.0
12:30:00.90	SWS	54.2	-	-	-	Telescope at scan limit - going to -50.0
12:30:09.88	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:30:18.90	SWS	54.8	-	-	-	Telescope at scan limit - going to -50.0
12:30:28.41	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:30:37.49	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:30:46.50	SWS	-49.1	-	-	-	Telescope at scan limit - going to 55.0
12:30:55.59	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:31:04.65	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:31:13.71	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:31:22.71	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
12:31:31.76	SWS	54.9	-	-	-	Telescope at scan limit - going to -50.0
12:31:40.80	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:31:50.32	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:31:59.26	SWS	-48.9	-	-	-	Telescope at scan limit - going to 55.0
12:32:08.38	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:32:17.51	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:32:27.00	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:32:36.04	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:32:38.23	SWS	-28.3	-	-	-	Telescope stopped.
12:32:49.84	SWS	-28.3	-	-	-	Telescope sent to 0.000
12:32:52.61	---	-	-	-	-	Reset shutters.
12:32:55.93	USH	-	-	40	40	Dark measurement started.
12:32:56.01	LSH	-	-	40	40	Dark measurement started.
12:32:56.06	SWS	-	-	50	50	Dark measurement started.
12:32:56.65	SWS	-	-	50	50	Dark measurement started.
12:32:56.84	USH	-	-	40	40	Manual scene recording started.
12:32:57.08	LSH	-	-	40	40	Manual scene recording started.
12:32:57.67	SWS	-	-	-	-	Idling
12:32:57.71	SWS	-	-	50	50	Dark measurement started.
12:32:57.79	USH	-	-	40	40	Dark measurement started.
12:32:57.92	LSH	-	-	40	40	Dark measurement started.
12:32:58.72	SWS	-	-	-	-	Idling
12:32:58.86	USH	-	-	40	40	Manual scene recording started.
12:32:59.09	LSH	-	-	40	40	Manual scene recording started.
12:33:02.41	SWS	-	-	50	50	Dark measurement started.
12:33:02.47	LSH	-	-	40	40	Dark measurement started.
12:33:02.57	USH	-	-	40	40	Dark measurement started.
12:33:03.38	SWS	-	-	-	-	Idling
12:33:03.50	LSH	-	-	40	40	Manual scene recording started.
12:33:03.73	USH	-	-	40	40	Manual scene recording started.
12:33:04.91	SWS	-	-	50	50	Manual scene recording started.
12:33:34.48	---	-	-	-	-	*** p 11
12:34:28.44	---	-	-	-	-	***
12:34:40.09	SWS	-	-	-	-	Warning: Clipping may be occurring.
12:39:42.17	---	-	-	-	-	*** run 12 at FL 350
12:39:42.31	SWS	0.0	-	-	-	Telescope at scan limit - going to 55.0
12:39:42.76	SWS	2.1	-	-	-	Telescope sent to -50.000
12:39:47.53	SWS	50.8	-	-	-	Telescope at scan limit - going to -50.0
12:39:48.28	SWS	42.2	-	-	-	Telescope at scan limit - going to -50.0
12:39:49.03	SWS	32.9	-	-	-	Telescope at scan limit - going to -50.0
12:39:49.85	SWS	23.1	-	-	-	Telescope at scan limit - going to -50.0
12:39:50.61	SWS	14.1	-	-	-	Telescope at scan limit - going to -50.0
12:39:51.39	SWS	4.8	-	-	-	Telescope at scan limit - going to -50.0
12:39:52.11	SWS	-4.0	-	-	-	Telescope at scan limit - going to 55.0
12:39:52.87	SWS	-13.2	-	-	-	Telescope at scan limit - going to 55.0
12:39:53.62	SWS	-22.3	-	-	-	Telescope at scan limit - going to 55.0
12:39:54.37	SWS	-31.0	-	-	-	Telescope at scan limit - going to 55.0
12:39:55.13	SWS	-40.1	-	-	-	Telescope at scan limit - going to 55.0
12:39:55.90	SWS	-49.4	-	-	-	Telescope at scan limit - going to 55.0
12:40:05.10	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:40:14.33	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:40:23.57	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:40:32.63	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:40:42.13	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:40:51.10	SWS	-49.2	-	-	-	Telescope at scan limit - going to 55.0
12:41:00.08	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:41:09.08	SWS	-49.5	-	-	-	Telescope at scan limit - going to 55.0

12:41:18.07	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:41:27.13	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:41:36.21	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:41:45.22	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:41:54.21	SWS	54.2	-	-	-	Telescope at scan limit - going to -50.0
12:42:03.30	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:42:12.42	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:42:21.42	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
12:42:30.44	SWS	54.3	-	-	-	Telescope at scan limit - going to -50.0
12:42:39.52	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:42:48.93	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:42:58.08	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:43:07.36	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:43:16.43	SWS	-50.0	-	-	-	Telescope at scan limit - going to 55.0
12:43:25.44	SWS	54.2	-	-	-	Telescope at scan limit - going to -50.0
12:43:34.51	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:43:43.52	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
12:43:52.49	SWS	-49.3	-	-	-	Telescope at scan limit - going to 55.0
12:44:01.54	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:44:11.03	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:44:20.03	SWS	54.4	-	-	-	Telescope at scan limit - going to -50.0
12:44:28.99	SWS	-48.8	-	-	-	Telescope at scan limit - going to 55.0
12:44:38.07	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:44:47.12	SWS	-49.7	-	-	-	Telescope at scan limit - going to 55.0
12:44:56.09	SWS	54.0	-	-	-	Telescope at scan limit - going to -50.0
12:45:05.07	SWS	-49.6	-	-	-	Telescope at scan limit - going to 55.0
12:45:14.08	SWS	54.5	-	-	-	Telescope at scan limit - going to -50.0
12:45:23.14	SWS	-49.8	-	-	-	Telescope at scan limit - going to 55.0
12:45:31.29	SWS	43.5	-	-	-	Telescope stopped.
12:45:40.39	SWS	43.5	-	-	-	Telescope sent to 0.000
12:45:46.98	---	-	-	-	-	Reset shutters.
12:45:50.32	SWS	-	-	50	50	Dark measurement started.
12:45:50.37	USH	-	-	40	40	Dark measurement started.
12:45:50.41	LSH	-	-	40	40	Dark measurement started.
12:45:51.28	SWS	-	-	50	50	Manual scene recording started.
12:45:51.42	USH	-	-	40	40	Manual scene recording started.
12:45:51.67	LSH	-	-	40	40	Manual scene recording started.
12:45:52.65	USH	-	-	40	40	Dark measurement started.
12:45:52.71	SWS	-	-	50	50	Dark measurement started.
12:45:52.72	LSH	-	-	40	40	Dark measurement started.
12:45:53.51	USH	-	-	40	40	Manual scene recording started.
12:45:53.86	SWS	-	-	50	50	Manual scene recording started.
12:45:53.99	LSH	-	-	40	40	Manual scene recording started.
12:48:15.03	---	-	-	-	-	*** thin cirrus above
12:48:49.60	---	-	-	-	-	***
12:52:12.36	---	-	-	-	-	*** FL 350
12:54:32.10	SWS	0.0	-	-	-	Telescope sent to -50.000
12:54:36.92	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:54:45.97	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
12:54:55.02	SWS	-49.9	-	-	-	Telescope at scan limit - going to 55.0
12:55:04.10	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:55:13.14	SWS	-49.8	-	-	-	Telescope at scan limit - going to 55.0
12:55:22.20	SWS	55.0	-	-	-	Telescope at scan limit - going to -50.0
12:55:31.30	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:55:40.33	SWS	54.7	-	-	-	Telescope at scan limit - going to -50.0
12:55:49.45	SWS	-50.1	-	-	-	Telescope at scan limit - going to 55.0
12:55:58.62	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:56:08.31	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:56:18.04	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:56:27.75	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:56:37.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:56:46.99	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:56:56.63	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:57:06.22	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:57:15.84	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:57:25.52	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:57:35.11	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:57:44.73	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:57:54.52	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0

12:58:04.21	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:58:13.91	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:58:23.53	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:58:33.17	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:58:42.91	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:58:52.64	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:59:02.31	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:59:11.97	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:59:21.63	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:59:31.32	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
12:59:41.05	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
12:59:50.64	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:00:00.32	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:00:10.01	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:00:19.75	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:00:29.52	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:00:39.17	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:00:48.83	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:00:58.51	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
13:01:08.23	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:01:16.37	SWS	-38.1	-	-	-	Telescope stopped.
13:01:23.30	SWS	-38.1	-	-	-	Telescope sent to 0.000
13:01:25.53	---	-	-	-	-	Reset shutters.
13:01:28.83	---	-	-	-	-	Reset shutters.
13:01:32.17	LSH	-	-	40	40	Dark measurement started.
13:01:32.25	USH	-	-	40	40	Dark measurement started.
13:01:32.26	SWS	-	-	50	50	Dark measurement started.
13:01:33.08	LSH	-	-	40	40	Manual scene recording started.
13:01:33.28	USH	-	-	40	40	Manual scene recording started.
13:01:33.62	SWS	-	-	50	50	Manual scene recording started.
13:01:34.60	SWS	-	-	50	50	Dark measurement started.
13:01:34.61	USH	-	-	40	40	Dark measurement started.
13:01:34.69	LSH	-	-	40	40	Dark measurement started.
13:01:35.61	SWS	-	-	50	50	Manual scene recording started.
13:01:35.75	USH	-	-	40	40	Manual scene recording started.
13:01:35.98	LSH	-	-	40	40	Manual scene recording started.
13:01:36.98	USH	-	-	40	40	Dark measurement started.
13:01:37.02	LSH	-	-	40	40	Dark measurement started.
13:01:37.07	SWS	-	-	50	50	Dark measurement started.
13:01:37.86	USH	-	-	40	40	Manual scene recording started.
13:01:38.10	LSH	-	-	40	40	Manual scene recording started.
13:01:38.38	SWS	-	-	50	50	Manual scene recording started.
13:01:55.15	USH	-	-	40	40	Dark measurement started.
13:01:55.20	SWS	-	-	50	50	Dark measurement started.
13:01:55.23	LSH	-	-	40	40	Dark measurement started.
13:01:56.09	USH	-	-	40	40	Manual scene recording started.
13:01:56.37	SWS	-	-	50	50	Manual scene recording started.
13:01:56.55	LSH	-	-	40	40	Manual scene recording started.
13:01:57.28	USH	-	-	40	40	Dark measurement started.
13:01:57.33	LSH	-	-	40	40	Dark measurement started.
13:01:57.37	SWS	-	-	50	50	Dark measurement started.
13:01:58.19	USH	-	-	40	40	Manual scene recording started.
13:01:58.42	LSH	-	-	40	40	Manual scene recording started.
13:01:58.72	SWS	-	-	50	50	Manual scene recording started.
13:03:06.02	SWS	-	-	-	-	Warning: Clipping may be occurring.
13:03:19.83	SWS	-	-	50	50	Dark measurement started.
13:03:20.85	SWS	-	-	50	50	Manual scene recording started.
13:03:21.83	SWS	-	-	50	50	Dark measurement started.
13:03:22.82	SWS	-	-	50	50	Manual scene recording started.
13:03:57.93	SWS	-	-	50	50	Dark measurement started.
13:03:58.91	SWS	-	-	50	50	Manual scene recording started.
13:05:40.97	SWS	-0.0	-	-	-	Telescope at scan limit - going to 55.0
13:05:41.40	SWS	2.0	-	-	-	Telescope sent to -55.000
13:05:51.64	---	-	-	-	-	*** run 13 at FL 350
13:05:55.25	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:06:05.12	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:06:14.96	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:06:24.55	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:06:34.26	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0

13:06:35.92	---	-	-	-	-	Reset shutters.
13:06:39.38	USH	-	-	40	40	Dark measurement started.
13:06:39.45	LSH	-	-	40	40	Dark measurement started.
13:06:39.55	SWS	-	-	50	50	Dark measurement started.
13:06:40.30	USH	-	-	40	40	Manual scene recording started.
13:06:40.55	LSH	-	-	40	40	Manual scene recording started.
13:06:40.89	SWS	-	-	50	50	Manual scene recording started.
13:06:43.17	USH	-	-	40	40	Dark measurement started.
13:06:43.29	LSH	-	-	40	40	Dark measurement started.
13:06:43.31	SWS	-	-	50	50	Dark measurement started.
13:06:44.05	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:06:44.07	USH	-	-	40	40	Manual scene recording started.
13:06:44.32	LSH	-	-	40	40	Manual scene recording started.
13:06:44.62	SWS	-	-	50	50	Manual scene recording started.
13:06:53.71	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
13:07:03.35	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:07:12.98	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:07:22.56	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:07:32.32	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
13:07:42.06	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:07:51.76	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
13:08:01.43	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:08:11.07	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:08:20.78	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:08:30.41	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:08:40.06	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:08:49.66	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
13:08:59.34	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:09:09.07	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:09:18.58	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:09:28.22	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:09:37.92	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:09:47.55	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:09:57.19	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:10:06.82	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:10:16.54	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:10:26.25	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:10:35.90	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:10:45.54	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:10:55.25	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:11:04.96	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:11:14.66	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:11:24.26	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:11:33.90	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:11:43.71	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:11:53.49	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:12:03.02	SWS	-54.0	-	-	-	Telescope at scan limit - going to 55.0
13:12:12.82	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:12:22.47	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:12:32.25	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:12:41.87	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:12:51.63	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:13:01.30	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:13:11.06	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:13:20.78	SWS	-55.1	-	-	-	Telescope at scan limit - going to 55.0
13:13:30.63	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:13:37.70	SWS	-25.1	-	-	-	Telescope stopped.
13:13:43.86	SWS	-25.1	-	-	-	Telescope sent to 0.000
13:13:46.68	---	-	-	-	-	Reset shutters.
13:13:50.73	SWS	-	-	50	50	Dark measurement started.
13:13:50.80	LSH	-	-	40	40	Dark measurement started.
13:13:50.83	USH	-	-	40	40	Dark measurement started.
13:13:51.73	SWS	-	-	50	50	Manual scene recording started.
13:13:51.83	LSH	-	-	40	40	Manual scene recording started.
13:13:52.13	USH	-	-	40	40	Manual scene recording started.
13:13:53.05	LSH	-	-	40	40	Dark measurement started.
13:13:53.07	SWS	-	-	50	50	Dark measurement started.
13:13:53.15	USH	-	-	40	40	Dark measurement started.
13:13:53.76	USH	-	-	40	40	Dark measurement started.

13:13:53.97	LSH	-	-	40	40	Manual scene recording started.
13:13:54.32	SWS	-	-	50	50	Manual scene recording started.
13:13:54.68	USH	-	-	-	-	Idling
13:13:56.53	USH	-	-	40	40	Manual scene recording started.
13:14:03.00	LSH	-	-	40	40	Dark measurement started.
13:14:03.04	SWS	-	-	50	50	Dark measurement started.
13:14:03.06	USH	-	-	40	40	Dark measurement started.
13:14:03.99	LSH	-	-	40	40	Manual scene recording started.
13:14:04.34	SWS	-	-	50	50	Manual scene recording started.
13:14:04.46	USH	-	-	40	40	Manual scene recording started.
13:14:06.59	SWS	-	-	50	50	Dark measurement started.
13:14:06.69	LSH	-	-	40	40	Dark measurement started.
13:14:06.72	USH	-	-	40	40	Dark measurement started.
13:14:07.57	SWS	-	-	50	50	Manual scene recording started.
13:14:07.69	LSH	-	-	40	40	Manual scene recording started.
13:14:07.93	USH	-	-	40	40	Manual scene recording started.
13:15:17.91	SWS	-	-	-	-	Warning: Clipping may be occurring.
13:22:50.69	---	-	-	-	-	*** level orbit at FL 350 around 15 deg bank angle
13:22:59.25	---	-	-	-	-	Reset shutters.
13:23:03.11	SWS	-	-	50	50	Dark measurement started.
13:23:03.13	USH	-	-	40	40	Dark measurement started.
13:23:03.24	LSH	-	-	40	40	Dark measurement started.
13:23:04.15	SWS	-	-	50	50	Manual scene recording started.
13:23:04.27	USH	-	-	40	40	Manual scene recording started.
13:23:04.54	LSH	-	-	40	40	Manual scene recording started.
13:23:05.23	USH	-	-	40	40	Dark measurement started.
13:23:05.30	LSH	-	-	40	40	Dark measurement started.
13:23:05.32	SWS	-	-	50	50	Dark measurement started.
13:23:05.96	SWS	-	-	50	50	Dark measurement started.
13:23:06.15	USH	-	-	40	40	Manual scene recording started.
13:23:06.33	LSH	-	-	40	40	Manual scene recording started.
13:23:07.03	SWS	-	-	-	-	Idling
13:23:09.08	SWS	-	-	50	50	Manual scene recording started.
13:25:28.62	---	-	-	-	-	*** profile descent
13:25:35.76	---	-	-	-	-	*** spiral profile to right
13:25:52.72	---	-	-	-	-	*** p 12
13:45:59.52	SWS	0.0	-	-	-	Telescope at scan limit - going to 55.0
13:45:59.96	SWS	2.1	-	-	-	Telescope sent to -55.000
13:46:04.82	SWS	49.8	-	-	-	Telescope at scan limit - going to -55.0
13:46:05.61	SWS	41.2	-	-	-	Telescope at scan limit - going to -55.0
13:46:06.38	SWS	31.3	-	-	-	Telescope at scan limit - going to -55.0
13:46:07.08	SWS	22.7	-	-	-	Telescope at scan limit - going to -55.0
13:46:07.87	SWS	13.8	-	-	-	Telescope at scan limit - going to -55.0
13:46:08.62	SWS	4.2	-	-	-	Telescope at scan limit - going to -55.0
13:46:09.38	SWS	-4.6	-	-	-	Telescope at scan limit - going to 55.0
13:46:10.15	SWS	-13.9	-	-	-	Telescope at scan limit - going to 55.0
13:46:10.93	SWS	-23.4	-	-	-	Telescope at scan limit - going to 55.0
13:46:11.71	SWS	-32.6	-	-	-	Telescope at scan limit - going to 55.0
13:46:12.47	SWS	-41.8	-	-	-	Telescope at scan limit - going to 55.0
13:46:13.24	SWS	-51.0	-	-	-	Telescope at scan limit - going to 55.0
13:46:13.36	---	-	-	-	-	*** run 15
13:46:14.02	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
13:46:23.81	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:46:33.62	SWS	-55.0	-	-	-	Telescope at scan limit - going to 55.0
13:46:43.33	SWS	55.0	-	-	-	Telescope at scan limit - going to -55.0
13:46:53.04	SWS	-55.0	-	-	-	Telescope at scan limit - going to 4.0
13:46:58.55	SWS	4.0	-	-	-	Telescope at scan limit - going to -45.0
13:47:02.92	SWS	-44.5	-	-	-	Telescope at scan limit - going to 4.0
13:47:05.45	---	-	-	-	-	*** mototr complaining at low altitude so reduced range
13:47:07.21	SWS	2.7	-	-	-	Telescope at scan limit - going to -45.0
13:47:11.54	SWS	-44.4	-	-	-	Telescope at scan limit - going to 4.0
13:47:15.89	SWS	3.2	-	-	-	Telescope at scan limit - going to -45.0
13:47:20.19	SWS	-43.9	-	-	-	Telescope at scan limit - going to 4.0
13:47:24.49	SWS	3.0	-	-	-	Telescope at scan limit - going to -45.0
13:47:28.91	SWS	-45.0	-	-	-	Telescope at scan limit - going to 4.0
13:47:33.25	SWS	3.3	-	-	-	Telescope at scan limit - going to -45.0
13:47:37.61	SWS	-44.9	-	-	-	Telescope at scan limit - going to 4.0

13:47:42.01	SWS	4.0	-	-	-	Telescope at scan limit - going to -45.0
13:47:46.29	SWS	-43.9	-	-	-	Telescope at scan limit - going to 4.0
13:47:50.67	SWS	3.6	-	-	-	Telescope at scan limit - going to -45.0
13:47:55.00	SWS	-44.5	-	-	-	Telescope at scan limit - going to 4.0
13:47:59.43	SWS	4.0	-	-	-	Telescope at scan limit - going to -45.0
13:48:03.83	SWS	-45.0	-	-	-	Telescope at scan limit - going to 4.0
13:48:08.22	SWS	3.8	-	-	-	Telescope at scan limit - going to -45.0
13:48:12.53	SWS	-44.1	-	-	-	Telescope at scan limit - going to 4.0
13:48:16.81	SWS	3.1	-	-	-	Telescope at scan limit - going to -45.0
13:48:21.11	SWS	-43.7	-	-	-	Telescope at scan limit - going to 4.0
13:48:25.42	SWS	3.1	-	-	-	Telescope at scan limit - going to -45.0
13:48:29.72	SWS	-44.2	-	-	-	Telescope at scan limit - going to 4.0
13:48:34.04	SWS	3.2	-	-	-	Telescope at scan limit - going to -45.0
13:48:38.38	SWS	-44.2	-	-	-	Telescope at scan limit - going to 4.0
13:48:43.26	SWS	4.0	-	-	-	Telescope at scan limit - going to -45.0
13:48:44.92	SWS	-11.5	-	-	-	Telescope stopped.
13:48:51.82	SWS	-11.5	-	-	-	Telescope sent to 0.000
13:48:54.47	---	-	-	-	-	Reset shutters.
13:48:57.80	USH	-	-	40	40	Dark measurement started.
13:48:57.88	LSH	-	-	40	40	Dark measurement started.
13:48:57.91	SWS	-	-	50	50	Dark measurement started.
13:48:58.72	USH	-	-	40	40	Manual scene recording started.
13:48:58.97	LSH	-	-	40	40	Manual scene recording started.
13:48:59.32	SWS	-	-	50	50	Manual scene recording started.
13:49:00.16	SWS	-	-	50	50	Dark measurement started.
13:49:00.26	USH	-	-	40	40	Dark measurement started.
13:49:00.26	LSH	-	-	40	40	Dark measurement started.
13:49:01.17	SWS	-	-	50	50	Manual scene recording started.
13:49:01.29	USH	-	-	40	40	Manual scene recording started.
13:49:01.53	LSH	-	-	40	40	Manual scene recording started.
13:49:03.11	SWS	-	-	50	50	Dark measurement started.
13:49:03.12	LSH	-	-	40	40	Dark measurement started.
13:49:03.21	USH	-	-	40	40	Dark measurement started.
13:49:03.88	USH	-	-	40	40	Dark measurement started.
13:49:04.22	SWS	-	-	50	50	Manual scene recording started.
13:49:04.31	LSH	-	-	40	40	Manual scene recording started.
13:49:04.74	USH	-	-	-	-	Idling
13:49:05.87	USH	-	-	40	40	Dark measurement started.
13:49:05.91	LSH	-	-	40	40	Dark measurement started.
13:49:05.96	SWS	-	-	50	50	Dark measurement started.
13:49:06.74	USH	-	-	-	-	Idling
13:49:07.06	LSH	-	-	40	40	Manual scene recording started.
13:49:07.35	SWS	-	-	50	50	Manual scene recording started.
13:49:07.42	LSH	-	-	40	40	Manual scene recording started.
13:49:11.69	USH	-	-	40	40	Manual scene recording started.
13:50:26.60	SWS	0.0	-	-	-	Telescope at scan limit - going to -45.0
13:50:27.05	SWS	-2.1	-	-	-	Telescope sent to -45.000
13:50:30.62	SWS	-44.8	-	-	-	Telescope at scan limit - going to 4.0
13:50:34.05	---	-	-	-	-	*** run 16 at FL 150
13:50:34.93	SWS	3.2	-	-	-	Telescope at scan limit - going to -45.0
13:50:39.21	SWS	-43.7	-	-	-	Telescope at scan limit - going to 4.0
13:50:43.52	SWS	3.3	-	-	-	Telescope at scan limit - going to -45.0
13:50:47.85	SWS	-44.1	-	-	-	Telescope at scan limit - going to 4.0
13:50:52.23	SWS	3.8	-	-	-	Telescope at scan limit - going to -45.0
13:50:56.65	SWS	-45.0	-	-	-	Telescope at scan limit - going to 4.0
13:51:00.99	SWS	3.4	-	-	-	Telescope at scan limit - going to -45.0
13:51:05.42	SWS	-45.0	-	-	-	Telescope at scan limit - going to 4.0
13:51:09.83	SWS	3.9	-	-	-	Telescope at scan limit - going to -45.0
13:51:14.21	SWS	-44.6	-	-	-	Telescope at scan limit - going to 4.0
13:51:18.53	SWS	3.5	-	-	-	Telescope at scan limit - going to -45.0
13:51:23.42	SWS	-45.0	-	-	-	Telescope at scan limit - going to 4.0
13:51:27.78	SWS	3.2	-	-	-	Telescope at scan limit - going to -45.0
13:51:32.11	SWS	-44.7	-	-	-	Telescope at scan limit - going to 45.0
13:51:40.01	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:51:47.92	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:51:55.94	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:52:03.81	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:52:11.75	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:52:19.75	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0

13:52:27.62	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:52:35.60	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:52:43.53	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:52:51.45	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:52:59.33	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:53:07.24	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:53:15.25	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:53:23.17	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
13:53:30.99	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:53:38.96	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:53:46.95	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:53:54.82	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:54:02.73	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:54:10.61	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:54:18.54	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:54:26.55	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
13:54:34.62	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:54:42.54	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:54:50.39	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:54:58.37	SWS	-45.0	-	-	-	Telescope at scan limit - going to 45.0
13:55:06.23	SWS	45.0	-	-	-	Telescope at scan limit - going to -45.0
13:55:14.13	SWS	-45.1	-	-	-	Telescope at scan limit - going to 45.0
13:55:18.94	SWS	7.8	-	-	-	Telescope stopped.
13:55:29.96	SWS	7.8	-	-	-	Telescope sent to 0.000
13:55:41.53	SWS	0.0	-	-	-	Telescope sent to -0.500
13:55:42.48	SWS	-0.5	-	-	-	Telescope sent to -1.000
13:55:43.44	SWS	-1.0	-	-	-	Telescope sent to -1.500
13:55:43.81	SWS	-1.5	-	-	-	Telescope sent to -2.000
13:55:44.34	SWS	-2.0	-	-	-	Telescope sent to -2.500
13:55:45.28	SWS	-2.5	-	-	-	Telescope sent to -3.000
13:55:46.22	SWS	-3.0	-	-	-	Telescope sent to -3.500
13:55:46.65	SWS	-3.5	-	-	-	Telescope sent to -4.000
13:55:47.62	SWS	-4.0	-	-	-	Telescope sent to -4.500
13:55:49.14	SWS	-4.5	-	-	-	Telescope sent to -5.000
13:56:17.23	SWS	-5.0	-	-	-	Telescope sent to -4.500
13:56:18.72	SWS	-4.5	-	-	-	Telescope sent to -4.000
13:56:19.72	SWS	-4.0	-	-	-	Telescope sent to -3.500
13:56:20.11	SWS	-3.5	-	-	-	Telescope sent to -3.000
13:56:20.53	SWS	-3.0	-	-	-	Telescope sent to -2.500
13:56:21.11	SWS	-2.5	-	-	-	Telescope sent to -2.000
13:56:22.06	SWS	-2.0	-	-	-	Telescope sent to -1.500
13:56:22.44	SWS	-1.5	-	-	-	Telescope sent to -1.000
13:56:22.81	SWS	-1.0	-	-	-	Telescope sent to -0.500
13:56:23.33	SWS	-0.5	-	-	-	Telescope sent to 0.000
13:56:24.27	SWS	-0.0	-	-	-	Telescope sent to 0.500
13:56:24.66	SWS	0.5	-	-	-	Telescope sent to 1.000
13:56:25.16	SWS	1.0	-	-	-	Telescope sent to 1.500
13:56:25.71	SWS	1.5	-	-	-	Telescope sent to 2.000
13:56:26.17	SWS	2.0	-	-	-	Telescope sent to 2.500
13:56:26.63	SWS	2.5	-	-	-	Telescope sent to 3.000
13:56:27.11	SWS	3.0	-	-	-	Telescope sent to 3.500
13:56:27.61	SWS	3.5	-	-	-	Telescope sent to 4.000
13:56:28.05	SWS	4.0	-	-	-	Telescope sent to 4.500
13:56:28.51	SWS	4.5	-	-	-	Telescope sent to 5.000
13:56:28.97	SWS	5.0	-	-	-	Telescope sent to 5.500
13:56:29.44	SWS	5.5	-	-	-	Telescope sent to 6.000
13:56:29.98	SWS	6.0	-	-	-	Telescope sent to 6.500
13:56:30.37	SWS	6.5	-	-	-	Telescope sent to 7.000
13:56:30.82	SWS	7.0	-	-	-	Telescope sent to 7.500
13:56:31.28	SWS	7.5	-	-	-	Telescope sent to 8.000
13:56:31.78	SWS	8.0	-	-	-	Telescope sent to 8.500
13:56:32.26	SWS	8.5	-	-	-	Telescope sent to 9.000
13:56:32.72	SWS	9.0	-	-	-	Telescope sent to 9.500
13:56:33.19	SWS	9.5	-	-	-	Telescope sent to 10.000
13:56:33.71	SWS	10.0	-	-	-	Telescope sent to 10.500
13:56:34.16	SWS	10.5	-	-	-	Telescope sent to 11.000
13:56:34.65	SWS	11.0	-	-	-	Telescope sent to 11.500
13:56:35.08	SWS	11.5	-	-	-	Telescope sent to 12.000
13:56:35.48	SWS	12.0	-	-	-	Telescope sent to 12.500

13:56:35.96	SWS	12.5	-	-	-	Telescope sent to 13.000
13:56:36.38	SWS	13.0	-	-	-	Telescope sent to 13.500
13:56:36.81	SWS	13.5	-	-	-	Telescope sent to 14.000
13:56:37.23	SWS	14.0	-	-	-	Telescope sent to 14.500
13:56:37.67	SWS	14.5	-	-	-	Telescope sent to 15.000
13:56:38.18	SWS	15.0	-	-	-	Telescope sent to 15.500
13:56:38.61	SWS	15.5	-	-	-	Telescope sent to 16.000
13:56:39.03	SWS	16.0	-	-	-	Telescope sent to 16.500
13:56:39.48	SWS	16.5	-	-	-	Telescope sent to 17.000
13:56:39.93	SWS	17.0	-	-	-	Telescope sent to 17.500
13:56:40.34	SWS	17.5	-	-	-	Telescope sent to 18.000
13:56:40.75	SWS	18.0	-	-	-	Telescope sent to 18.500
13:56:41.18	SWS	18.5	-	-	-	Telescope sent to 19.000
13:56:41.60	SWS	19.0	-	-	-	Telescope sent to 19.500
13:56:42.03	SWS	19.5	-	-	-	Telescope sent to 20.000
13:56:42.44	SWS	20.0	-	-	-	Telescope sent to 20.500
13:56:42.90	SWS	20.5	-	-	-	Telescope sent to 21.000
13:56:43.28	SWS	21.0	-	-	-	Telescope sent to 21.500
13:56:43.64	SWS	21.5	-	-	-	Telescope sent to 22.000
13:56:44.02	SWS	22.0	-	-	-	Telescope sent to 22.500
13:56:44.43	SWS	22.5	-	-	-	Telescope sent to 23.000
13:56:44.81	SWS	23.0	-	-	-	Telescope sent to 23.500
13:56:45.18	SWS	23.5	-	-	-	Telescope sent to 24.000
13:56:45.57	SWS	24.0	-	-	-	Telescope sent to 24.500
13:56:45.99	SWS	24.5	-	-	-	Telescope sent to 25.000
13:56:46.35	SWS	25.0	-	-	-	Telescope sent to 25.500
13:56:46.73	SWS	25.5	-	-	-	Telescope sent to 26.000
13:56:47.10	SWS	26.0	-	-	-	Telescope sent to 26.500
13:56:47.47	SWS	26.5	-	-	-	Telescope sent to 27.000
13:56:47.85	SWS	27.0	-	-	-	Telescope sent to 27.500
13:56:48.22	SWS	27.5	-	-	-	Telescope sent to 28.000
13:56:48.55	SWS	28.0	-	-	-	Telescope sent to 28.500
13:56:48.95	SWS	28.5	-	-	-	Telescope sent to 29.000
13:56:49.27	SWS	29.0	-	-	-	Telescope sent to 29.500
13:56:49.64	SWS	29.5	-	-	-	Telescope sent to 30.000
13:56:50.03	SWS	30.0	-	-	-	Telescope sent to 30.500
13:56:50.42	SWS	30.5	-	-	-	Telescope sent to 31.000
13:56:50.79	SWS	31.0	-	-	-	Telescope sent to 31.500
13:56:51.15	SWS	31.5	-	-	-	Telescope sent to 32.000
13:56:51.56	SWS	32.0	-	-	-	Telescope sent to 32.500
13:56:51.97	SWS	32.5	-	-	-	Telescope sent to 33.000
13:56:52.35	SWS	33.0	-	-	-	Telescope sent to 33.500
13:56:52.70	SWS	33.5	-	-	-	Telescope sent to 34.000
13:56:53.08	SWS	34.0	-	-	-	Telescope sent to 34.500
13:56:53.46	SWS	34.5	-	-	-	Telescope sent to 35.000
13:56:53.82	SWS	35.0	-	-	-	Telescope sent to 35.500
13:56:54.20	SWS	35.5	-	-	-	Telescope sent to 36.000
13:56:54.59	SWS	36.0	-	-	-	Telescope sent to 36.500
13:56:54.98	SWS	36.5	-	-	-	Telescope sent to 37.000
13:56:55.39	SWS	37.0	-	-	-	Telescope sent to 37.500
13:56:55.73	SWS	37.5	-	-	-	Telescope sent to 38.000
13:56:56.07	SWS	38.0	-	-	-	Telescope sent to 38.500
13:56:56.44	SWS	38.5	-	-	-	Telescope sent to 39.000
13:56:56.84	SWS	39.0	-	-	-	Telescope sent to 39.500
13:56:57.16	SWS	39.5	-	-	-	Telescope sent to 40.000
13:56:57.53	SWS	40.0	-	-	-	Telescope sent to 40.500
13:56:57.93	SWS	40.5	-	-	-	Telescope sent to 41.000
13:56:58.30	SWS	41.0	-	-	-	Telescope sent to 41.500
13:56:58.65	SWS	41.5	-	-	-	Telescope sent to 42.000
13:56:59.02	SWS	42.0	-	-	-	Telescope sent to 42.500
13:56:59.39	SWS	42.5	-	-	-	Telescope sent to 43.000
13:56:59.72	SWS	43.0	-	-	-	Telescope sent to 43.500
13:57:00.11	SWS	43.5	-	-	-	Telescope sent to 44.000
13:57:00.47	SWS	44.0	-	-	-	Telescope sent to 44.500
13:57:00.83	SWS	44.5	-	-	-	Telescope sent to 45.000
13:57:01.21	SWS	45.0	-	-	-	Telescope sent to 45.500
13:57:01.60	SWS	45.5	-	-	-	Telescope sent to 46.000
13:57:01.96	SWS	46.0	-	-	-	Telescope sent to 46.500
13:57:02.32	SWS	46.5	-	-	-	Telescope sent to 47.000

13:57:02.71	SWS	47.0	-	-	-	Telescope sent to 47.500
13:57:03.07	SWS	47.5	-	-	-	Telescope sent to 48.000
13:57:03.47	SWS	48.0	-	-	-	Telescope sent to 48.500
13:57:03.86	SWS	48.5	-	-	-	Telescope sent to 49.000
13:57:04.23	SWS	49.0	-	-	-	Telescope sent to 49.500
13:57:04.64	SWS	49.5	-	-	-	Telescope sent to 50.000
13:57:04.97	SWS	50.0	-	-	-	Telescope sent to 50.500
13:57:05.31	SWS	50.5	-	-	-	Telescope sent to 51.000
13:57:05.71	SWS	51.0	-	-	-	Telescope sent to 51.500
13:57:06.11	SWS	51.5	-	-	-	Telescope sent to 52.000
13:57:06.50	SWS	52.0	-	-	-	Telescope sent to 52.500
13:57:06.89	SWS	52.5	-	-	-	Telescope sent to 53.000
13:57:07.28	SWS	53.0	-	-	-	Telescope sent to 53.500
13:57:07.64	SWS	53.5	-	-	-	Telescope sent to 54.000
13:57:08.01	SWS	54.0	-	-	-	Telescope sent to 54.500
13:57:08.38	SWS	54.5	-	-	-	Telescope sent to 55.000
13:57:08.71	SWS	55.0	-	-	-	Telescope sent to 55.500
13:57:09.13	SWS	55.5	-	-	-	Telescope sent to 56.000
13:57:09.52	SWS	56.0	-	-	-	Telescope sent to 56.500
13:57:09.89	SWS	56.5	-	-	-	Telescope sent to 57.000
13:57:10.27	SWS	57.0	-	-	-	Telescope sent to 57.500
13:57:10.64	SWS	57.5	-	-	-	Telescope sent to 58.000
13:57:11.02	SWS	58.0	-	-	-	Telescope sent to 58.500
13:57:11.38	SWS	58.5	-	-	-	Telescope sent to 59.000
13:57:11.72	SWS	59.0	-	-	-	Telescope sent to 59.500
13:57:12.05	SWS	59.5	-	-	-	Telescope sent to 60.000
13:57:12.43	SWS	60.0	-	-	-	Telescope sent to 60.500
13:57:12.82	SWS	60.5	-	-	-	Telescope sent to 61.000
13:57:13.26	SWS	61.0	-	-	-	Telescope sent to 61.500
13:57:13.68	SWS	61.5	-	-	-	Telescope sent to 62.000
13:57:14.05	SWS	62.0	-	-	-	Telescope sent to 62.500
13:57:14.42	SWS	62.5	-	-	-	Telescope sent to 63.000
13:57:14.80	SWS	63.0	-	-	-	Telescope sent to 63.500
13:57:15.16	SWS	63.5	-	-	-	Telescope sent to 64.000
13:57:15.53	SWS	64.0	-	-	-	Telescope sent to 64.500
13:57:15.93	SWS	64.5	-	-	-	Telescope sent to 65.000
13:57:16.29	SWS	65.0	-	-	-	Telescope sent to 65.500
13:57:16.71	SWS	65.5	-	-	-	Telescope sent to 66.000
13:57:17.07	SWS	66.0	-	-	-	Telescope sent to 66.500
13:57:17.48	SWS	66.5	-	-	-	Telescope sent to 67.000
13:57:17.85	SWS	67.0	-	-	-	Telescope sent to 67.500
13:57:18.24	SWS	67.5	-	-	-	Telescope sent to 68.000
13:57:18.66	SWS	68.0	-	-	-	Telescope sent to 68.500
13:57:19.05	SWS	68.5	-	-	-	Telescope sent to 69.000
13:57:19.41	SWS	69.0	-	-	-	Telescope sent to 69.500
13:57:19.80	SWS	69.5	-	-	-	Telescope sent to 70.000
13:57:20.19	SWS	70.0	-	-	-	Telescope sent to 69.500
13:57:20.60	SWS	69.5	-	-	-	Telescope sent to 69.000
13:57:20.98	SWS	69.0	-	-	-	Telescope sent to 68.500
13:57:21.39	SWS	68.5	-	-	-	Telescope sent to 68.000
13:57:21.81	SWS	68.0	-	-	-	Telescope sent to 67.500
13:57:22.18	SWS	67.5	-	-	-	Telescope sent to 67.000
13:57:22.56	SWS	67.0	-	-	-	Telescope sent to 66.500
13:57:23.00	SWS	66.5	-	-	-	Telescope sent to 66.000
13:57:23.37	SWS	66.0	-	-	-	Telescope sent to 65.500
13:57:23.73	SWS	65.5	-	-	-	Telescope sent to 65.000
13:57:24.11	SWS	65.0	-	-	-	Telescope sent to 64.500
13:57:24.53	SWS	64.5	-	-	-	Telescope sent to 64.000
13:57:24.90	SWS	64.0	-	-	-	Telescope sent to 63.500
13:57:25.27	SWS	63.5	-	-	-	Telescope sent to 63.000
13:57:25.64	SWS	63.0	-	-	-	Telescope sent to 62.500
13:57:26.00	SWS	62.5	-	-	-	Telescope sent to 62.000
13:57:26.36	SWS	62.0	-	-	-	Telescope sent to 61.500
13:57:26.72	SWS	61.5	-	-	-	Telescope sent to 61.000
13:57:27.09	SWS	61.0	-	-	-	Telescope sent to 60.500
13:57:27.45	SWS	60.5	-	-	-	Telescope sent to 60.000
13:57:27.83	SWS	60.0	-	-	-	Telescope sent to 59.500
13:57:28.20	SWS	59.5	-	-	-	Telescope sent to 59.000
13:57:28.56	SWS	59.0	-	-	-	Telescope sent to 58.500

13:57:28.97	SWS	58.5	-	-	-	Telescope sent to 58.000
13:57:29.33	SWS	58.0	-	-	-	Telescope sent to 57.500
13:57:29.71	SWS	57.5	-	-	-	Telescope sent to 57.000
13:57:30.07	SWS	57.0	-	-	-	Telescope sent to 56.500
13:57:30.44	SWS	56.5	-	-	-	Telescope sent to 56.000
13:57:30.80	SWS	56.0	-	-	-	Telescope sent to 55.500
13:57:31.18	SWS	55.5	-	-	-	Telescope sent to 55.000
13:57:31.55	SWS	55.0	-	-	-	Telescope sent to 54.500
13:57:31.94	SWS	54.5	-	-	-	Telescope sent to 54.000
13:57:32.30	SWS	54.0	-	-	-	Telescope sent to 53.500
13:57:32.71	SWS	53.5	-	-	-	Telescope sent to 53.000
13:57:33.08	SWS	53.0	-	-	-	Telescope sent to 52.500
13:57:33.44	SWS	52.5	-	-	-	Telescope sent to 52.000
13:57:33.83	SWS	52.0	-	-	-	Telescope sent to 51.500
13:57:34.20	SWS	51.5	-	-	-	Telescope sent to 51.000
13:57:34.55	SWS	51.0	-	-	-	Telescope sent to 50.500
13:57:34.95	SWS	50.5	-	-	-	Telescope sent to 50.000
13:57:35.32	SWS	50.0	-	-	-	Telescope sent to 49.500
13:57:35.72	SWS	49.5	-	-	-	Telescope sent to 49.000
13:57:36.09	SWS	49.0	-	-	-	Telescope sent to 48.500
13:57:36.44	SWS	48.5	-	-	-	Telescope sent to 48.000
13:57:36.81	SWS	48.0	-	-	-	Telescope sent to 47.500
13:57:37.17	SWS	47.5	-	-	-	Telescope sent to 47.000
13:57:37.53	SWS	47.0	-	-	-	Telescope sent to 46.500
13:57:37.94	SWS	46.5	-	-	-	Telescope sent to 46.000
13:57:38.31	SWS	46.0	-	-	-	Telescope sent to 45.500
13:57:38.69	SWS	45.5	-	-	-	Telescope sent to 45.000
13:57:39.05	SWS	45.0	-	-	-	Telescope sent to 44.500
13:57:39.43	SWS	44.5	-	-	-	Telescope sent to 44.000
13:57:39.83	SWS	44.0	-	-	-	Telescope sent to 43.500
13:57:40.19	SWS	43.5	-	-	-	Telescope sent to 43.000
13:57:40.55	SWS	43.0	-	-	-	Telescope sent to 42.500
13:57:40.95	SWS	42.5	-	-	-	Telescope sent to 42.000
13:57:41.31	SWS	42.0	-	-	-	Telescope sent to 41.500
13:57:41.72	SWS	41.5	-	-	-	Telescope sent to 41.000
13:57:42.08	SWS	41.0	-	-	-	Telescope sent to 40.500
13:57:46.57	SWS	40.5	-	-	-	Telescope sent to 40.000
13:57:46.97	SWS	40.0	-	-	-	Telescope sent to 39.500
13:57:47.37	SWS	39.5	-	-	-	Telescope sent to 39.000
13:57:47.75	SWS	39.0	-	-	-	Telescope sent to 38.500
13:57:48.12	SWS	38.5	-	-	-	Telescope sent to 38.000
13:57:48.48	SWS	38.0	-	-	-	Telescope sent to 37.500
13:57:48.82	SWS	37.5	-	-	-	Telescope sent to 37.000
13:57:49.19	SWS	37.0	-	-	-	Telescope sent to 36.500
13:57:51.36	SWS	36.5	-	-	-	Telescope sent to 36.000
13:57:51.71	SWS	36.0	-	-	-	Telescope sent to 35.500
13:57:52.08	SWS	35.5	-	-	-	Telescope sent to 35.000
13:57:52.47	SWS	35.0	-	-	-	Telescope sent to 34.500
13:57:52.87	SWS	34.5	-	-	-	Telescope sent to 34.000
13:57:53.25	SWS	34.0	-	-	-	Telescope sent to 33.500
13:57:53.65	SWS	33.5	-	-	-	Telescope sent to 33.000
13:57:54.02	SWS	33.0	-	-	-	Telescope sent to 32.500
13:57:54.40	SWS	32.5	-	-	-	Telescope sent to 32.000
13:57:54.75	SWS	32.0	-	-	-	Telescope sent to 31.500
13:57:55.13	SWS	31.5	-	-	-	Telescope sent to 31.000
13:57:55.52	SWS	31.0	-	-	-	Telescope sent to 30.500
13:57:55.89	SWS	30.5	-	-	-	Telescope sent to 30.000
13:57:56.26	SWS	30.0	-	-	-	Telescope sent to 29.500
13:57:56.64	SWS	29.5	-	-	-	Telescope sent to 29.000
13:57:57.01	SWS	29.0	-	-	-	Telescope sent to 28.500
13:57:57.37	SWS	28.5	-	-	-	Telescope sent to 28.000
13:57:57.73	SWS	28.0	-	-	-	Telescope sent to 27.500
13:57:58.12	SWS	27.5	-	-	-	Telescope sent to 27.000
13:57:58.50	SWS	27.0	-	-	-	Telescope sent to 26.500
13:57:58.85	SWS	26.5	-	-	-	Telescope sent to 26.000
13:57:59.22	SWS	26.0	-	-	-	Telescope sent to 25.500
13:57:59.60	SWS	25.5	-	-	-	Telescope sent to 25.000
13:57:59.98	SWS	25.0	-	-	-	Telescope sent to 24.500
13:58:00.36	SWS	24.5	-	-	-	Telescope sent to 24.000

13:58:00.70	SWS	24.0	-	-	-	Telescope sent to 23.500
13:58:01.06	SWS	23.5	-	-	-	Telescope sent to 23.000
13:58:01.43	SWS	23.0	-	-	-	Telescope sent to 22.500
13:58:01.82	SWS	22.5	-	-	-	Telescope sent to 22.000
13:58:02.22	SWS	22.0	-	-	-	Telescope sent to 21.500
13:58:02.61	SWS	21.5	-	-	-	Telescope sent to 21.000
13:58:02.99	SWS	21.0	-	-	-	Telescope sent to 20.500
13:58:03.36	SWS	20.5	-	-	-	Telescope sent to 20.000
13:58:03.73	SWS	20.0	-	-	-	Telescope sent to 19.500
13:58:04.10	SWS	19.5	-	-	-	Telescope sent to 19.000
13:58:04.49	SWS	19.0	-	-	-	Telescope sent to 18.500
13:58:04.87	SWS	18.5	-	-	-	Telescope sent to 18.000
13:58:05.25	SWS	18.0	-	-	-	Telescope sent to 17.500
13:58:05.63	SWS	17.5	-	-	-	Telescope sent to 17.000
13:58:06.05	SWS	17.0	-	-	-	Telescope sent to 16.500
13:58:06.45	SWS	16.5	-	-	-	Telescope sent to 16.000
13:58:06.84	SWS	16.0	-	-	-	Telescope sent to 15.500
13:58:07.21	SWS	15.5	-	-	-	Telescope sent to 15.000
13:58:07.61	SWS	15.0	-	-	-	Telescope sent to 14.500
13:58:07.97	SWS	14.5	-	-	-	Telescope sent to 14.000
13:58:08.35	SWS	14.0	-	-	-	Telescope sent to 13.500
13:58:08.75	SWS	13.5	-	-	-	Telescope sent to 13.000
13:58:09.12	SWS	13.0	-	-	-	Telescope sent to 12.500
13:58:09.49	SWS	12.5	-	-	-	Telescope sent to 12.000
13:58:09.88	SWS	12.0	-	-	-	Telescope sent to 11.500
13:58:10.28	SWS	11.5	-	-	-	Telescope sent to 11.000
13:58:10.66	SWS	11.0	-	-	-	Telescope sent to 10.500
13:58:11.05	SWS	10.5	-	-	-	Telescope sent to 10.000
13:58:11.42	SWS	10.0	-	-	-	Telescope sent to 9.500
13:58:11.80	SWS	9.5	-	-	-	Telescope sent to 9.000
13:58:12.18	SWS	9.0	-	-	-	Telescope sent to 8.500
13:58:12.60	SWS	8.5	-	-	-	Telescope sent to 8.000
13:58:13.01	SWS	8.0	-	-	-	Telescope sent to 7.500
13:58:13.37	SWS	7.5	-	-	-	Telescope sent to 7.000
13:58:13.75	SWS	7.0	-	-	-	Telescope sent to 6.500
13:58:14.14	SWS	6.5	-	-	-	Telescope sent to 6.000
13:58:14.50	SWS	6.0	-	-	-	Telescope sent to 5.500
13:58:14.87	SWS	5.5	-	-	-	Telescope sent to 5.000
13:58:15.28	SWS	5.0	-	-	-	Telescope sent to 4.500
13:58:15.68	SWS	4.5	-	-	-	Telescope sent to 4.000
13:58:16.04	SWS	4.0	-	-	-	Telescope sent to 3.500
13:58:16.45	SWS	3.5	-	-	-	Telescope sent to 3.000
13:58:16.83	SWS	3.0	-	-	-	Telescope sent to 2.500
13:58:17.22	SWS	2.5	-	-	-	Telescope sent to 2.000
13:58:17.60	SWS	2.0	-	-	-	Telescope sent to 1.500
13:58:18.00	SWS	1.5	-	-	-	Telescope sent to 1.000
13:58:18.38	SWS	1.0	-	-	-	Telescope sent to 0.500
13:58:18.75	SWS	0.5	-	-	-	Telescope sent to 0.000
13:58:19.12	SWS	-0.0	-	-	-	Telescope sent to -0.500
13:58:19.50	SWS	-0.5	-	-	-	Telescope sent to -1.000
13:58:19.88	SWS	-1.0	-	-	-	Telescope sent to -1.500
13:58:20.28	SWS	-1.5	-	-	-	Telescope sent to -2.000
13:58:20.62	SWS	-2.0	-	-	-	Telescope sent to -2.500
13:58:20.99	SWS	-2.5	-	-	-	Telescope sent to -3.000
13:58:21.37	SWS	-3.0	-	-	-	Telescope sent to -3.500
13:58:21.72	SWS	-3.5	-	-	-	Telescope sent to -4.000
13:58:22.09	SWS	-4.0	-	-	-	Telescope sent to -4.500
13:58:22.49	SWS	-4.5	-	-	-	Telescope sent to -5.000
13:58:22.88	SWS	-5.0	-	-	-	Telescope sent to -5.500
13:58:23.23	SWS	-5.5	-	-	-	Telescope sent to -6.000
13:58:23.62	SWS	-6.0	-	-	-	Telescope sent to -6.500
13:58:24.01	SWS	-6.5	-	-	-	Telescope sent to -7.000
13:58:24.38	SWS	-7.0	-	-	-	Telescope sent to -7.500
13:58:24.75	SWS	-7.5	-	-	-	Telescope sent to -8.000
13:58:25.10	SWS	-8.0	-	-	-	Telescope sent to -8.500
13:58:25.45	SWS	-8.5	-	-	-	Telescope sent to -9.000
13:58:25.82	SWS	-9.0	-	-	-	Telescope sent to -9.500
13:58:26.21	SWS	-9.5	-	-	-	Telescope sent to -10.000
13:58:26.55	SWS	-10.0	-	-	-	Telescope sent to -10.500

13:58:26.96	SWS	-10.5	-	-	-	Telescope sent to	-11.000
13:58:27.35	SWS	-11.0	-	-	-	Telescope sent to	-11.500
13:58:27.72	SWS	-11.5	-	-	-	Telescope sent to	-12.000
13:58:28.10	SWS	-12.0	-	-	-	Telescope sent to	-12.500
13:58:28.46	SWS	-12.5	-	-	-	Telescope sent to	-13.000
13:58:28.82	SWS	-13.0	-	-	-	Telescope sent to	-13.500
13:58:29.21	SWS	-13.5	-	-	-	Telescope sent to	-14.000
13:58:29.61	SWS	-14.0	-	-	-	Telescope sent to	-14.500
13:58:29.98	SWS	-14.5	-	-	-	Telescope sent to	-15.000
13:58:30.34	SWS	-15.0	-	-	-	Telescope sent to	-15.500
13:58:30.72	SWS	-15.5	-	-	-	Telescope sent to	-16.000
13:58:31.10	SWS	-16.0	-	-	-	Telescope sent to	-16.500
13:58:31.46	SWS	-16.5	-	-	-	Telescope sent to	-17.000
13:58:31.83	SWS	-17.0	-	-	-	Telescope sent to	-17.500
13:58:32.20	SWS	-17.5	-	-	-	Telescope sent to	-18.000
13:58:32.56	SWS	-18.0	-	-	-	Telescope sent to	-18.500
13:58:32.96	SWS	-18.5	-	-	-	Telescope sent to	-19.000
13:58:33.32	SWS	-19.0	-	-	-	Telescope sent to	-19.500
13:58:33.73	SWS	-19.5	-	-	-	Telescope sent to	-20.000
13:58:34.10	SWS	-20.0	-	-	-	Telescope sent to	-20.500
13:58:34.46	SWS	-20.5	-	-	-	Telescope sent to	-21.000
13:58:34.85	SWS	-21.0	-	-	-	Telescope sent to	-21.500
13:58:35.22	SWS	-21.5	-	-	-	Telescope sent to	-22.000
13:58:35.59	SWS	-22.0	-	-	-	Telescope sent to	-22.500
13:58:35.96	SWS	-22.5	-	-	-	Telescope sent to	-23.000
13:58:36.32	SWS	-23.0	-	-	-	Telescope sent to	-23.500
13:58:36.70	SWS	-23.5	-	-	-	Telescope sent to	-24.000
13:58:37.08	SWS	-24.0	-	-	-	Telescope sent to	-24.500
13:58:37.45	SWS	-24.5	-	-	-	Telescope sent to	-25.000
13:58:37.82	SWS	-25.0	-	-	-	Telescope sent to	-25.500
13:58:38.19	SWS	-25.5	-	-	-	Telescope sent to	-26.000
13:58:38.56	SWS	-26.0	-	-	-	Telescope sent to	-26.500
13:58:38.97	SWS	-26.5	-	-	-	Telescope sent to	-27.000
13:58:39.34	SWS	-27.0	-	-	-	Telescope sent to	-27.500
13:58:39.75	SWS	-27.5	-	-	-	Telescope sent to	-28.000
13:58:40.11	SWS	-28.0	-	-	-	Telescope sent to	-28.500
13:58:40.50	SWS	-28.5	-	-	-	Telescope sent to	-29.000
13:58:40.84	SWS	-29.0	-	-	-	Telescope sent to	-29.500
13:58:41.21	SWS	-29.5	-	-	-	Telescope sent to	-30.000
13:58:41.58	SWS	-30.0	-	-	-	Telescope sent to	-30.500
13:58:41.95	SWS	-30.5	-	-	-	Telescope sent to	-31.000
13:58:42.32	SWS	-31.0	-	-	-	Telescope sent to	-31.500
13:58:42.72	SWS	-31.5	-	-	-	Telescope sent to	-32.000
13:58:49.51	SWS	-32.0	-	-	-	Telescope sent to	-32.500
13:58:49.85	SWS	-32.5	-	-	-	Telescope sent to	-33.000
13:58:50.22	SWS	-33.0	-	-	-	Telescope sent to	-33.500
13:58:50.59	SWS	-33.5	-	-	-	Telescope sent to	-34.000
13:58:52.22	SWS	-34.0	-	-	-	Telescope sent to	-34.500
13:58:52.66	SWS	-34.5	-	-	-	Telescope sent to	-35.000
13:58:53.15	SWS	-35.0	-	-	-	Telescope sent to	-35.500
13:58:53.63	SWS	-35.5	-	-	-	Telescope sent to	-36.000
13:58:54.03	SWS	-36.0	-	-	-	Telescope sent to	-36.500
13:58:54.42	SWS	-36.5	-	-	-	Telescope sent to	-37.000
13:58:54.82	SWS	-37.0	-	-	-	Telescope sent to	-37.500
13:58:55.23	SWS	-37.5	-	-	-	Telescope sent to	-38.000
13:58:55.64	SWS	-38.0	-	-	-	Telescope sent to	-38.500
13:58:55.99	SWS	-38.5	-	-	-	Telescope sent to	-39.000
13:58:56.36	SWS	-39.0	-	-	-	Telescope sent to	-39.500
13:58:56.75	SWS	-39.5	-	-	-	Telescope sent to	-40.000
13:58:57.15	SWS	-40.0	-	-	-	Telescope sent to	-40.500
13:58:57.55	SWS	-40.5	-	-	-	Telescope sent to	-41.000
13:58:58.00	SWS	-41.0	-	-	-	Telescope sent to	-41.500
13:58:58.35	SWS	-41.5	-	-	-	Telescope sent to	-42.000
13:58:58.72	SWS	-42.0	-	-	-	Telescope sent to	-42.500
13:58:59.09	SWS	-42.5	-	-	-	Telescope sent to	-43.000
13:58:59.49	SWS	-43.0	-	-	-	Telescope sent to	-43.500
13:58:59.80	SWS	-43.5	-	-	-	Telescope sent to	-44.000
13:59:00.23	SWS	-44.0	-	-	-	Telescope sent to	-44.500
13:59:00.66	SWS	-44.5	-	-	-	Telescope sent to	-45.000

13:59:01.04	SWS	-45.0	-	-	-	Telescope sent to -45.500
13:59:01.41	SWS	-45.5	-	-	-	Telescope sent to -46.000
13:59:01.83	SWS	-46.0	-	-	-	Telescope sent to -46.500
13:59:02.20	SWS	-46.5	-	-	-	Telescope sent to -47.000
13:59:02.58	SWS	-47.0	-	-	-	Telescope sent to -47.500
13:59:02.95	SWS	-47.5	-	-	-	Telescope sent to -48.000
13:59:05.66	SWS	-48.0	-	-	-	Telescope sent to -48.500
13:59:06.24	SWS	-48.5	-	-	-	Telescope sent to -49.000
13:59:06.73	SWS	-49.0	-	-	-	Telescope sent to -49.500
13:59:07.28	SWS	-49.5	-	-	-	Telescope sent to -50.000
13:59:07.90	SWS	-50.0	-	-	-	Telescope sent to -50.500
13:59:08.83	SWS	-50.5	-	-	-	Telescope sent to -51.000
13:59:09.83	SWS	-51.0	-	-	-	Telescope sent to -51.500
13:59:10.32	SWS	-51.5	-	-	-	Telescope sent to -52.000
13:59:11.49	SWS	-52.0	-	-	-	Telescope sent to -52.500
13:59:12.44	SWS	-52.5	-	-	-	Telescope sent to -53.000
13:59:13.39	SWS	-53.0	-	-	-	Telescope sent to -53.500
13:59:14.43	SWS	-53.5	-	-	-	Telescope sent to -54.000
13:59:15.48	SWS	-54.0	-	-	-	Telescope sent to -54.500
13:59:21.75	SWS	-54.5	-	-	-	Telescope sent to -54.000
13:59:22.19	SWS	-54.0	-	-	-	Telescope sent to -53.500
13:59:22.56	SWS	-53.5	-	-	-	Telescope sent to -53.000
13:59:22.98	SWS	-53.0	-	-	-	Telescope sent to -52.500
13:59:23.44	SWS	-52.5	-	-	-	Telescope sent to -52.000
13:59:23.84	SWS	-52.0	-	-	-	Telescope sent to -51.500
13:59:24.22	SWS	-51.5	-	-	-	Telescope sent to -51.000
13:59:24.64	SWS	-51.0	-	-	-	Telescope sent to -50.500
13:59:25.04	SWS	-50.5	-	-	-	Telescope sent to -50.000
13:59:25.42	SWS	-50.0	-	-	-	Telescope sent to -49.500
13:59:25.85	SWS	-49.5	-	-	-	Telescope sent to -49.000
13:59:26.23	SWS	-49.0	-	-	-	Telescope sent to -48.500
13:59:26.66	SWS	-48.5	-	-	-	Telescope sent to -48.000
13:59:27.04	SWS	-48.0	-	-	-	Telescope sent to -47.500
13:59:27.38	SWS	-47.5	-	-	-	Telescope sent to -47.000
13:59:27.78	SWS	-47.0	-	-	-	Telescope sent to -46.500
13:59:28.15	SWS	-46.5	-	-	-	Telescope sent to -46.000
13:59:28.49	SWS	-46.0	-	-	-	Telescope sent to -45.500
13:59:28.90	SWS	-45.5	-	-	-	Telescope sent to -45.000
13:59:29.30	SWS	-45.0	-	-	-	Telescope sent to -44.500
13:59:29.70	SWS	-44.5	-	-	-	Telescope sent to -44.000
13:59:30.08	SWS	-44.0	-	-	-	Telescope sent to -43.500
13:59:30.48	SWS	-43.5	-	-	-	Telescope sent to -43.000
13:59:30.85	SWS	-43.0	-	-	-	Telescope sent to -42.500
13:59:31.22	SWS	-42.5	-	-	-	Telescope sent to -42.000
13:59:31.66	SWS	-42.0	-	-	-	Telescope sent to -41.500
13:59:32.07	SWS	-41.5	-	-	-	Telescope sent to -41.000
13:59:32.46	SWS	-41.0	-	-	-	Telescope sent to -40.500
13:59:32.86	SWS	-40.5	-	-	-	Telescope sent to -40.000
13:59:33.24	SWS	-40.0	-	-	-	Telescope sent to -39.500
13:59:33.61	SWS	-39.5	-	-	-	Telescope sent to -39.000
13:59:34.00	SWS	-39.0	-	-	-	Telescope sent to -38.500
13:59:34.38	SWS	-38.5	-	-	-	Telescope sent to -38.000
13:59:34.73	SWS	-38.0	-	-	-	Telescope sent to -37.500
13:59:35.12	SWS	-37.5	-	-	-	Telescope sent to -37.000
13:59:35.53	SWS	-37.0	-	-	-	Telescope sent to -36.500
13:59:35.97	SWS	-36.5	-	-	-	Telescope sent to -36.000
13:59:36.34	SWS	-36.0	-	-	-	Telescope sent to -35.500
13:59:36.71	SWS	-35.5	-	-	-	Telescope sent to -35.000
13:59:37.09	SWS	-35.0	-	-	-	Telescope sent to -34.500
13:59:37.48	SWS	-34.5	-	-	-	Telescope sent to -34.000
13:59:37.82	SWS	-34.0	-	-	-	Telescope sent to -33.500
13:59:38.19	SWS	-33.5	-	-	-	Telescope sent to -33.000
13:59:38.56	SWS	-33.0	-	-	-	Telescope sent to -32.500
13:59:38.94	SWS	-32.5	-	-	-	Telescope sent to -32.000
13:59:39.32	SWS	-32.0	-	-	-	Telescope sent to -31.500
13:59:39.72	SWS	-31.5	-	-	-	Telescope sent to -31.000
13:59:40.09	SWS	-31.0	-	-	-	Telescope sent to -30.500
13:59:40.42	SWS	-30.5	-	-	-	Telescope sent to -30.000
13:59:40.77	SWS	-30.0	-	-	-	Telescope sent to -29.500

13:59:41.14	SWS	-29.5	-	-	-	Telescope sent to -29.000
13:59:41.51	SWS	-29.0	-	-	-	Telescope sent to -28.500
13:59:41.88	SWS	-28.5	-	-	-	Telescope sent to -28.000
13:59:42.26	SWS	-28.0	-	-	-	Telescope sent to -27.500
13:59:42.63	SWS	-27.5	-	-	-	Telescope sent to -27.000
13:59:43.00	SWS	-27.0	-	-	-	Telescope sent to -26.500
13:59:43.38	SWS	-26.5	-	-	-	Telescope sent to -26.000
13:59:43.76	SWS	-26.0	-	-	-	Telescope sent to -25.500
13:59:44.13	SWS	-25.5	-	-	-	Telescope sent to -25.000
13:59:44.50	SWS	-25.0	-	-	-	Telescope sent to -24.500
13:59:44.84	SWS	-24.5	-	-	-	Telescope sent to -24.000
13:59:45.23	SWS	-24.0	-	-	-	Telescope sent to -23.500
13:59:45.62	SWS	-23.5	-	-	-	Telescope sent to -23.000
13:59:45.99	SWS	-23.0	-	-	-	Telescope sent to -22.500
13:59:46.39	SWS	-22.5	-	-	-	Telescope sent to -22.000
13:59:46.74	SWS	-22.0	-	-	-	Telescope sent to -21.500
13:59:47.12	SWS	-21.5	-	-	-	Telescope sent to -21.000
13:59:47.50	SWS	-21.0	-	-	-	Telescope sent to -20.500
13:59:47.89	SWS	-20.5	-	-	-	Telescope sent to -20.000
13:59:48.25	SWS	-20.0	-	-	-	Telescope sent to -19.500
13:59:48.62	SWS	-19.5	-	-	-	Telescope sent to -19.000
13:59:49.02	SWS	-19.0	-	-	-	Telescope sent to -18.500
13:59:49.43	SWS	-18.5	-	-	-	Telescope sent to -18.000
13:59:49.80	SWS	-18.0	-	-	-	Telescope sent to -17.500
13:59:50.18	SWS	-17.5	-	-	-	Telescope sent to -17.000
13:59:50.55	SWS	-17.0	-	-	-	Telescope sent to -16.500
13:59:50.89	SWS	-16.5	-	-	-	Telescope sent to -16.000
13:59:51.26	SWS	-16.0	-	-	-	Telescope sent to -15.500
13:59:51.64	SWS	-15.5	-	-	-	Telescope sent to -15.000
13:59:51.99	SWS	-15.0	-	-	-	Telescope sent to -14.500
13:59:52.40	SWS	-14.5	-	-	-	Telescope sent to -14.000
13:59:52.78	SWS	-14.0	-	-	-	Telescope sent to -13.500
13:59:53.15	SWS	-13.5	-	-	-	Telescope sent to -13.000
13:59:53.53	SWS	-13.0	-	-	-	Telescope sent to -12.500
13:59:53.94	SWS	-12.5	-	-	-	Telescope sent to -12.000
13:59:54.34	SWS	-12.0	-	-	-	Telescope sent to -11.500
13:59:54.71	SWS	-11.5	-	-	-	Telescope sent to -11.000
13:59:55.09	SWS	-11.0	-	-	-	Telescope sent to -10.500
13:59:55.46	SWS	-10.5	-	-	-	Telescope sent to -10.000
13:59:55.84	SWS	-10.0	-	-	-	Telescope sent to -9.500
13:59:56.22	SWS	-9.5	-	-	-	Telescope sent to -9.000
13:59:56.60	SWS	-9.0	-	-	-	Telescope sent to -8.500
13:59:56.98	SWS	-8.5	-	-	-	Telescope sent to -8.000
13:59:57.38	SWS	-8.0	-	-	-	Telescope sent to -7.500
13:59:57.73	SWS	-7.5	-	-	-	Telescope sent to -7.000
13:59:58.13	SWS	-7.0	-	-	-	Telescope sent to -6.500
13:59:58.54	SWS	-6.5	-	-	-	Telescope sent to -6.000
13:59:58.94	SWS	-6.0	-	-	-	Telescope sent to -5.500
13:59:59.33	SWS	-5.5	-	-	-	Telescope sent to -5.000
13:59:59.72	SWS	-5.0	-	-	-	Telescope sent to -4.500
14:00:00.08	SWS	-4.5	-	-	-	Telescope sent to -4.000
14:00:00.45	SWS	-4.0	-	-	-	Telescope sent to -3.500
14:00:00.82	SWS	-3.5	-	-	-	Telescope sent to -3.000
14:00:01.20	SWS	-3.0	-	-	-	Telescope sent to -2.500
14:00:01.60	SWS	-2.5	-	-	-	Telescope sent to -2.000
14:00:01.99	SWS	-2.0	-	-	-	Telescope sent to -1.500
14:00:02.36	SWS	-1.5	-	-	-	Telescope sent to -1.000
14:00:02.72	SWS	-1.0	-	-	-	Telescope sent to -0.500
14:00:03.09	SWS	-0.5	-	-	-	Telescope sent to 0.000
14:00:03.46	SWS	0.0	-	-	-	Telescope sent to 0.500
14:00:03.82	SWS	0.5	-	-	-	Telescope sent to 1.000
14:00:04.19	SWS	1.0	-	-	-	Telescope sent to 1.500
14:00:04.58	SWS	1.5	-	-	-	Telescope sent to 2.000
14:00:04.98	SWS	2.0	-	-	-	Telescope sent to 2.500
14:00:05.35	SWS	2.5	-	-	-	Telescope sent to 3.000
14:00:05.70	SWS	3.0	-	-	-	Telescope sent to 3.500
14:00:06.08	SWS	3.5	-	-	-	Telescope sent to 4.000
14:00:06.45	SWS	4.0	-	-	-	Telescope sent to 4.500
14:00:06.82	SWS	4.5	-	-	-	Telescope sent to 5.000

14:00:07.20	SWS	5.0	-	-	-	Telescope sent to 5.500
14:00:07.61	SWS	5.5	-	-	-	Telescope sent to 6.000
14:00:07.99	SWS	6.0	-	-	-	Telescope sent to 6.500
14:00:08.37	SWS	6.5	-	-	-	Telescope sent to 7.000
14:00:08.75	SWS	7.0	-	-	-	Telescope sent to 7.500
14:00:09.11	SWS	7.5	-	-	-	Telescope sent to 8.000
14:00:09.51	SWS	8.0	-	-	-	Telescope sent to 8.500
14:00:09.91	SWS	8.5	-	-	-	Telescope sent to 9.000
14:00:10.28	SWS	9.0	-	-	-	Telescope sent to 9.500
14:00:10.65	SWS	9.5	-	-	-	Telescope sent to 10.000
14:00:11.03	SWS	10.0	-	-	-	Telescope sent to 9.500
14:00:11.40	SWS	9.5	-	-	-	Telescope sent to 9.000
14:00:11.77	SWS	9.0	-	-	-	Telescope sent to 8.500
14:00:12.11	SWS	8.5	-	-	-	Telescope sent to 8.000
14:00:12.50	SWS	8.0	-	-	-	Telescope sent to 7.500
14:00:12.88	SWS	7.5	-	-	-	Telescope sent to 7.000
14:00:13.28	SWS	7.0	-	-	-	Telescope sent to 6.500
14:00:13.66	SWS	6.5	-	-	-	Telescope sent to 6.000
14:00:14.04	SWS	6.0	-	-	-	Telescope sent to 5.500
14:00:14.42	SWS	5.5	-	-	-	Telescope sent to 5.000
14:00:14.82	SWS	5.0	-	-	-	Telescope sent to 4.500
14:00:15.20	SWS	4.5	-	-	-	Telescope sent to 4.000
14:00:15.59	SWS	4.0	-	-	-	Telescope sent to 3.500
14:00:15.96	SWS	3.5	-	-	-	Telescope sent to 3.000
14:00:16.34	SWS	3.0	-	-	-	Telescope sent to 2.500
14:00:16.71	SWS	2.5	-	-	-	Telescope sent to 2.000
14:00:17.13	SWS	2.0	-	-	-	Telescope sent to 1.500
14:00:17.51	SWS	1.5	-	-	-	Telescope sent to 1.000
14:02:21.55	SWS	1.0	-	-	-	Telescope sent to 0.000
14:05:48.12	---	-	-	-	-	Reset shutters.
14:05:52.02	LSH	-	-	40	40	Dark measurement started.
14:05:52.07	SWS	-	-	50	50	Dark measurement started.
14:05:52.09	USH	-	-	40	40	Dark measurement started.
14:05:52.53	SWS	-	-	50	50	Dark measurement started.
14:05:52.72	USH	-	-	40	40	Dark measurement started.
14:05:52.98	LSH	-	-	40	40	Manual scene recording started.
14:05:53.64	SWS	-	-	-	-	Idling
14:05:53.85	USH	-	-	-	-	Idling
14:05:54.38	SWS	-	-	50	50	Dark measurement started.
14:05:54.39	USH	-	-	40	40	Dark measurement started.
14:05:54.49	LSH	-	-	40	40	Dark measurement started.
14:05:55.40	SWS	-	-	-	-	Idling
14:05:55.53	USH	-	-	-	-	Idling
14:05:55.77	LSH	-	-	40	40	Manual scene recording started.
14:05:56.22	USH	-	-	40	40	Dark measurement started.
14:05:56.22	SWS	-	-	50	50	Dark measurement started.
14:05:56.29	LSH	-	-	40	40	Dark measurement started.
14:05:57.16	USH	-	-	-	-	Idling
14:05:57.48	SWS	-	-	-	-	Idling
14:05:57.63	LSH	-	-	40	40	Manual scene recording started.
14:05:57.93	SWS	-	-	50	50	Manual scene recording started.
14:05:57.93	USH	-	-	40	40	Manual scene recording started.
14:06:04.74	USH	-	-	40	40	Dark measurement started.
14:06:04.76	LSH	-	-	40	40	Dark measurement started.
14:06:04.83	SWS	-	-	50	50	Dark measurement started.
14:06:05.67	USH	-	-	40	40	Manual scene recording started.
14:06:05.88	LSH	-	-	40	40	Manual scene recording started.
14:06:06.23	SWS	-	-	50	50	Manual scene recording started.
14:06:07.15	SWS	-	-	50	50	Dark measurement started.
14:06:07.21	LSH	-	-	40	40	Dark measurement started.
14:06:07.25	USH	-	-	40	40	Dark measurement started.
14:06:08.14	SWS	-	-	50	50	Manual scene recording started.
14:06:08.27	LSH	-	-	40	40	Manual scene recording started.
14:06:08.51	USH	-	-	40	40	Manual scene recording started.
14:06:10.69	LSH	-	-	40	40	Dark measurement started.
14:06:10.73	SWS	-	-	50	50	Dark measurement started.
14:06:10.79	USH	-	-	40	40	Dark measurement started.
14:06:11.40	USH	-	-	40	40	Dark measurement started.
14:06:11.63	LSH	-	-	40	40	Manual scene recording started.

14:06:11.95	SWS	-	-	50	50	Manual scene recording started.
14:06:12.28	USH	-	-	-	-	Idling
14:06:13.89	USH	-	-	40	40	Manual scene recording started.
14:10:17.32	SWS	-	-	50	50	Dark measurement started.
14:10:17.36	LSH	-	-	40	40	Dark measurement started.
14:10:17.41	USH	-	-	40	40	Dark measurement started.
14:10:17.82	LSH	-	-	40	40	Dark measurement started.
14:10:18.03	USH	-	-	40	40	Dark measurement started.
14:10:18.34	SWS	-	-	50	50	Manual scene recording started.
14:10:18.94	LSH	-	-	-	-	Idling
14:10:19.20	USH	-	-	-	-	Idling
14:10:19.80	LSH	-	-	40	40	Dark measurement started.
14:10:19.81	USH	-	-	40	40	Dark measurement started.
14:10:19.87	SWS	-	-	50	50	Dark measurement started.
14:10:20.67	LSH	-	-	-	-	Idling
14:10:20.92	USH	-	-	-	-	Idling
14:10:21.18	SWS	-	-	50	50	Manual scene recording started.
14:10:21.68	LSH	-	-	40	40	Dark measurement started.
14:10:21.69	USH	-	-	40	40	Dark measurement started.
14:10:21.82	SWS	-	-	50	50	Dark measurement started.
14:10:22.57	LSH	-	-	-	-	Idling
14:10:22.83	USH	-	-	-	-	Idling
14:10:23.12	SWS	-	-	50	50	Manual scene recording started.
14:10:23.96	USH	-	-	40	40	Manual scene recording started.
14:10:23.97	LSH	-	-	40	40	Manual scene recording started.